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No. 46388-A

AND

No. 44404-A

The Building Code

of the

City of Cleveland

Ohio

First Edition

1904

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Ordinance No. 46388-A.

AN ORDINANCE to provide for the creation and organization of the Department of Buildings, to provide for the enforcement of Ordinance No. 44404-a, and to repeal Sections 86, 239, 240, 314, 315, 316, 584, 585, 587, 902, 905 and 906 of the Revised Ordinances of 1896.

Be it ordained by the Council of the City of Cleveland, State of Ohio, as follows:

Section 1. TITLE OF THE ORDINANCE.

The following provisions shall constitute and be known as the Building Code of the City of Cleveland, and shall be divided into the following parts:

PART I. ADMINISTRATIVE.
PART II. BUILDINGS AND STRUCTURES.
PART III. OCCUPANCY OF PUBLIC PROPERTY.
PART IV. FIRE PROTECTION.
PART V. ELEVATORS.

Each part shall contain all ordinances relating to their respective subjects which have been or may be established by ordinance, Ordinance No. 44404-a, passed June 20, 1904, being Parts II, III, IV and V, and Part I to read as follows:

PART I.

ADMINISTRATIVE.

TITLE I.

DEPARTMENT OF BUILDINGS—ORGANIZATION.

Sec. 1. Department of Buildings—

There is hereby created and established an executive department of the municipal government of the City of Cleveland which shall be known as the Department of Buildings.

Sec. 2. Organization—

The said Department of Buildings shall consist of the following officers and employes: An Inspector of Buildings, a Deputy Inspector of Buildings, a Secretary, an Inspector of Iron and Steel, an Inspector of Masonry, an Inspector of Carpentry, an Inspector of Heating, an Inspector of Elevators, a Stenographer, and such other officers and employes as the Council may from time to time prescribe.

Sec. 3. Inspector of Buildings—

The Inspector of Buildings shall be the head of the Department of Buildings and shall have the management of all matters and affairs pertaining thereto. He shall be either an architect, civil engineer, general building contractor or general superintendent of building construction of not less than ten (10) years' experience in his profession or occupation. He shall be appointed by the Mayor and shall hold office until his successor shall be appointed and qualified, and shall be paid a salary of four thousand (4,000) dollars per annum.

Sec. 4. Appointment of Subordinates—

The Inspector of Buildings shall appoint all officers and employes of said Department for the term of two (2) years, but may remove them for inefficiency, neglect of duty, or malfeasance in office. All officers and employes of said Department shall be subject to such rules and regulations as shall be prescribed by the Inspector of Buildings, shall do and perform such work and duties as he shall require.

Sec. 5. Entire Time to be Devoted—

The Inspector of Buildings and all officers and employes of said Department shall give their entire time to the performance of the duties thereof and shall not, during their term of office, be employed or engaged, directly or indirectly, in any building business, or enter into any contract for building for others, or for furnishing materials, plans or specifications for others.

Sec. 6. Duties of Secretary—

The Secretary shall aid the Inspector of Buildings in the discharge of his official duties, shall attend to the office of said Department of Buildings during the usual business hours. He shall also act as Secretary to the Board of Appeal (see Title VII), and be custodian of all books, records and files, inclusive of drawings and specifications permanently or temporarily filed, and shall, under the direction of the Inspector, be the head of all clerical office employes in the Department of Buildings, and do and perform such other services as the said Inspector of Buildings may require. He shall be paid a salary of fifteen hundred (1,500.00) dollars per annum.

Sec. 7. Deputy Inspector—Qualifications and Salary—

The Deputy Inspector of Buildings shall be an architect or architectural engineer, expert in the knowledge of building materials, architectural construction, and the calculation of stresses, who shall have had five (5) years' experience in such profession. He shall be paid a salary of twenty-five hundred (2,500.00) dollars per annum.

Sec. 8. Inspectors' Qualifications—

The Inspectors hereinafter mentioned shall be competent men in their respective occupations, with a good education, who shall be able to make out reports in a legible hand, and who shall have had at least five (5) years' experience in their respective occupations.

Sec. 9. Inspector of Iron and Steel—Qualifications and Salary—

The Inspector of Iron and Steel shall be a civil engineer, or a professional inspector, or a mechanical erector of iron and steel work, or a shop foreman as applied to all classes of buildings. He shall be paid a salary of fifteen hundred (1,500.00) dollars per annum.

Sec. 10. Inspector of Masonry—Qualifications and Salary—

The Inspector of Masonry shall be a builder or practical mason or bricklayer versed in the general construction of buildings of the VI and VII classes, as prescribed in Part II, but having practical experience in the construction of brick, cut stone, concrete, tile, terra cotta and masonry in all classes of buildings. He shall be paid a salary of twelve hundred (1,200.00) dollars per annum.

Sec. 11. Inspector of Carpentry—Qualifications and Salary—

The Inspector of Carpentry shall be a builder or carpenter versed in the general construction of buildings of the VI and VII classes, but experienced in carpenter framing in all classes of buildings. He shall be paid a salary of twelve hundred (1,200.00) dollars per annum.

Sec. 12. Inspector of Heating—Qualifications and Salary—

The Inspector of Heating shall be a heating engineer, or a practical builder of hot air furnaces, or a practical steam or hot water fitter. He shall be paid a salary of twelve hundred (1,200.00) dollars per annum.

Sec. 13. Inspector of Elevators—Qualifications and Salary—

The Inspector of Elevators shall be either a mechanical engineer, elevator constructor, or machinist experienced in elevator construction. He shall be paid a salary of twelve hundred (1,200.00) dollars per annum.

Sec. 14. Stenographer—Salary—

The Stenographer to the Department shall be paid a salary of nine hundred (900.00) dollars, and shall perform such duties as the Inspector of Buildings may require.

Sec. 15. Oath of Office—

The Inspector of Buildings and each of the deputies, assistants and inspectors of said Department, shall, before entering upon the duties of his office, take and subscribe an oath or affirmation before some officer authorized to administer the same, that he has been engaged in the business of his profession or occupation for not less than the required number of years, and that he will faithfully perform the duties of his office, provided that if any of the officers aforesaid shall, before making such oath or affirmation, file with the City Auditor a certificate of gradution in his specialty from any established technical school, such certificate shall be deemed equivalent to three (3) years experience. Said oath or affirmation shall be filed in the office of the City Auditor of the City of Cleveland.

Sec. 16. Bond—

The Inspector of Buildings and each of the officers and employes of the said Department, shall likewise before entering upon the duties of his office, execute a bond with such sureties as the Mayor shall approve, to the City of Cleveland, conditioned upon the faithful performance of the duties of his office, which bond shall be for the benefit of all parties aggrieved by the acts or neglect of any of said officers or employes. The bonds of such officers and employes shall be in the sums following: Inspector of Buildings, ten thousand (10,000.00) dollars; Deputy Inspector, five thousand (5,000.00) dollars; Secretary, one thousand (1,000.00) dollars; Inspectors of Iron and Steel, of Masonry, of Carpentry, of Heating, of Elevators, one thousand (1,000.00) dollars each.

TITLE II.

DEPARTMENT OF BUILDINGS—ADMINISTRATION.

Sec. 1. Duties of the Inspector—

The Inspector of Buildings shall be charged with the survey and inspection of buildings and with the enforcement of Parts I, II, III, IV and V of this Code, and all other laws and ordinances relating to the erection, construction, alteration, repair, removal and safety of buildings, structures, elevators, heating apparatus, gasfitting, fire-escapes, and other fire protective devices. He shall pass upon all questions relating to the strength and durability of buildings, structures and materials, examine and approve all plans and specifications therefor before certificate for a permit shall be issued, and shall sign and issue all certificates and notices required to be issued. He shall promptly acknowledge the receipt of all official communications, notices and reports.

Sec. 2. Report of Violations—

When any person represents that a condition or thing exists which is in violation of the laws or ordinances with the enforcement of which the Inspector of Buildings is charged, it shall be his duty to forthwith examine such condition or thing, or cause it to be examined, and if any such violation is found to exist said Inspector shall immediately order the owner, lessee, tenant, or other person in charge thereof to make such changes, alterations or repairs as the laws and the ordinances of the city may require. And it shall be his further duty to cause the prosecution of the person or persons by whom such violation was committed.

Sec. 3. Inspection of Buildings—

The Inspector of Buildings shall regularly inspect, or cause to be inspected, all buildings of the First, Second, Third and Fifth Grades for the purpose of determining the safety thereof and the sufficiency in the event of fire or other accident of the doorways, passageways, aisles, stairways, fire-escapes, and all other means of egress. He shall examine the strength of the floors of such buildings, the safeguards thereof for the storage of combustibles, and the appliances thereof for resisting and extinguishing fires. And he shall cause the immediate prosecution of any person violating any law or ordinance in relation thereto.

Sec. 4. Records—

The Inspector of Buildings shall keep a book or books, or card filing system, in which shall be recorded the location and character of every building, structure, or other work for which a certificate or permit is issued, and a copy of every report of inspection of such building, structure, or work so arranged that the full history of the various inspections of each building, structure, or other work shall appear therein in consecutive order, with the names of the inspectors making the inspection and the date thereof. All original notes or records made by the Inspectors in pursuance of duty shall, when filled or at the termination of office, be signed, indexed and turned in to the Department for permanent file therein.

Sec. 5. Annual Report—

He shall keep, or cause to be kept, a record of the number, description, class, grade, size and cost of every building or structure erected in the City of Cleveland during his term of office, for which certificates or permits were issued, shall report the same to the Mayor annually and to the Auditor of Cuyahoga County on the second Monday of April in each year.

Sec. 6. Monthly Report—

He shall also make a monthly report to the Mayor on or before the tenth (10th) day of each month, of the number of permits and certificates issued, and cost of structures erected within the corporate limits of the City of Cleveland, during the preceding month.

Sec. 7. Annual Estimate—

The Inspector shall on or before the last Monday in March of each year make and file with the said Mayor, and also with the Auditor, a carefully prepared and itemized statement of the amount of money needed in the Department of Buildings for all purposes for the ensuing year, beginning on the first day of the next April, said estimate to be given for each month.

TITLE III.

BUILDING INSPECTION.

Sec. 1. Duties of Deputy Inspector—

It shall be the duty of the Deputy to examine and inspect all drawings, plans and specifications, and verify all calculations, strain-sheets or other data submitted to the department with the application for a permit, shall certify to such examinations and inspections in writing before any certificate is issued, and shall prepare all bills of quantities, estimates, sketches, details or other drawings to accompany any official report.

The Deputy Inspector of Buildings shall act as and perform the duties of the Inspector of Buildings in the absence of such Inspector and when directed to do so by him.

The Inspector and the Deputy shall not both be absent from duty at the same time.

Sec. 2. Duties of Inspectors—

(a) The Inspector of Iron and Steel shall be charged with the inspection of all iron and steeel construction, fire-escapes, skylights and signs on buildings. The Inspector of Masonry shall be charged with the inspection of concrete brick, stone, cement and tile constructions, excavations, foundations, fireproofing and plastering. The Inspector of Carpentry shall be charged with the inspection of all carpenter framing, roofing and construction, and all signboards and billboards other than those attached to buildings. The Inspector of Heating shall be charged with the inspection of all heating apparatus and gasfitting and the enclosing and fire stopping of all piping, wiring and conduits as prescribed in Sec. 4, Title XIV, Part II. The Inspector of Elevators shall be charged with the inspection of all elevators, cranes, hoists, derricks and lifts. (See Part V.)

(b) The said Inspectors shall, under the direction of the Inspector of Buildings, examine all buildings in course of erection, alteration, repair or removal throughout the City of Cleveland as often as required to insure efficient supervision, and shall make written reports to the Inspector of Buildings as to all violations of any law or ordinance which the Inspector of Buildings is required to enforce, together with the street and number where such violations are found, the name of the owner, agent, lessee, occupant, architect, contractors and master mechanics and all other matters relative thereto. They shall file daily reports of their work of inspection, which shall be entered in books or cards to be kept in the office of the Department of Buildings for this purpose, as provided in Sec. 4, Title II, Part I.

Sec. 3. Inspector of Heating Apparatus—Particular Duties of—

When the Inspector of Heating Apparatus is informed or is of the opinion that the heating, illuminating, fire or chemical apparatus, the chimney, flues or pipes or the manner or place in which any explosives are used, worked or stored, in any building or premises in the City of Cleveland, is dangerous or likely to cause or promote fires or explosions, it shall be his duty under the direction and supervision of the Inspector of Buildings and in conjunction with the Chief of the Fire Department or such persons as he may detail therefor, to enter such building or premises and examine the same. Upon finding any of the things hereinbefore enumerated to be defective or in dangerous condition, or being constructed in violation of this Code, he shall report the same to the Inspector of Buildings, who shall thereupon cause to be delivered to the owner, lessee, or occupant written or printed instructions to remove or remedy the same in such manner and within such reasonable time as may be necessary.

Sec. 4. Inspector of Elevators—Particular Duties of—

It shall also be the duty of the Inspector of Elevators at intervals not longer than six (6) months or more often if the enforcement of the provisions of Part V so require, to carefully examine and inspect all passenger elevators, sidewalk lifts, all hoistways in which an elevator is used or operated, and the doors, guards, rails, enclosures, shafts and automatic devices in connection therewith.

And he shall, at least once each year, examine and inspect all platforms, cranes, derricks and swinging scaffolds used or operated in or on any building or building site or work yard in the City of Cleveland, and all freight elevators, cars, cables, running gear, pulleys, safety attachments and all other parts of the machinery thereof. Each shift of portable elevators, derricks, cranes, swinging scaffolds or block and tackle used for hoisting materials or things in or into buildings, shall be inspected once each year, and each shift in position from story to story of a building or from one building to another, shall be inspected. The said Inspector shall make a full and complete written report of each inspection, which report shall show the condition of such scaffolding or hoisting or elevating apparatus.

Sec. 5. Inspection of Awnings.—

The Inspector of Buildings shall, after the passage of this Code, make or cause to be made immediate inspection of all awnings projecting over street lines and order the removal of all such awnings when the outer edge of the frame thereof is less than seven (7) feet above the sidewalk grade at the building line. And the said Inspector shall once each year cause the inspection of all awnings, awning frame, or coverings, which overhang public property.

Sec. 6. Inspection of Exposed Metal Work—

All open bridges and metal work mentioned in Sec. 17, Title XI, Part II, all fire-escapes, outside shutters and standpipes, and all overhanging signs, or signs attached to or on the tops of buildings within thirty (30) feet of any street line, shall be inspected at least once a year between the months of April and November.

Sec. 7. Gas Tests—

The Inspector shall require the tests prescribed in Sec. 13, Title XXXIX, Part II, to be made under his direction by the gas company for the use of whose gas the building is equipped and the certificate of such company shall be filed with him before the piping is concealed, as prescribed in Sec. 4, Title XIV, or before such building is occupied. The final test prescribed in the aforesaid Sec. 13 and all tests of gas piping the use of which is changed from one kind of gas to another, shall be made in the presence of the Inspector of Heating, whose duty it shall be to attend such test.

TITLE IV.

PERMITS.

Sec. 1. New Buildings and Buildings to be Altered—

No wall, structure, building or part thereof, shall hereafter be built or constructed, nor shall the heating apparatus, gasfitting, or elevator work of any building, premises or structure, be installed, constructed, or altered in the City of Cleveland, except in conformity to the provisions of this Code. No building already erected or hereafter to be built in said City shall be raised, altered, built upon or moved in any manner that would be in violation of any of the provisions of this Code or the permit issued thereunder.

Sec. 2. Permits—

Before commencing or proceeding with the erection, construction, enlargement, alteration, repair or removal of any building, structure, heating apparatus, gasfitting, elevator, or any part thereof in the City of Cleveland, a permit therefor shall first be obtained by the owner or his agent or architect from the City Clerk and it shall be unlawful to commence or proceed with any such work unless such permit shall first have been obtained.

Sec. 3. Permits Limited—

If after a permit shall have been issued the operation called for by it shall not be begun within six (6) months of the date thereof, said permit shall be void, and before such operation can be begun a new permit shall be taken out by the owner or his agent or architect and fees as hereafter fixed for the original permit in Title V, shall be paid therefor.

Sec. 4. Application for Permit—

Application for such permit shall be made in writing to the Inspector of Buildings by the owner or his agent or architect, upon blank forms furnished by the Department of Buildings. Such application shall be accompanied by the plans and specification required by this Title.

Sec. 5. Statements—

(a) The application shall be accompanied by a statement in writing giving the estimated cost of such building or structure, the location and intended use thereof, with a pertinent description of the land and number of sublot, allotment, name of owner and street, and of each of the owners of said building, structure or premises. The aforesaid application and the detailed statement shall be kept on file in the office of the Department of Buildings with the plans and specifications as prescribed in Sec. 29 hereof.

(b) In case the applicant for a permit shall fail to give the correct estimated cost of the work for which a permit is required, it shall be the duty of the Inspector to take off the quantities, make the estimates and add the cost of such work as found to the best of his knowledge and belief.

Sec. 6. Situation Plan—

Applicants for a building permit shall also file with the Inspector of Buildings, for permanent record, a plat of the lot or site upon which it is intended to erect such building or structure, which plat shall show the location and dimensions of such lot, the subdivision and lot number thereof, the width of the streets, alleys, or courtways upon which such lot or site abuts, the sidewalk and curb lines thereof, the location of any building or structure thereon and the distance of the nearest point of all building lines on the adjoining lot within ten (10) feet of the lot line. The plat shall show the plan of the first story in heavy lines and shall show all projections, in their extremes, in broken lines. Such plat shall give the figured dimensions of the body of the building, its extreme projection, and the distance thereof from or on the adjoining street or lot lines and nearest building or structure. All such plats shall be enclosed in a single heavy line, leaving a one-inch border or margin on all sides, oriented and lettered with the north point of compass at the top of the sheet.

Sec. 7. Situation Plan Only—Required When—

The situation plan is the only inked or indellibly rendered drawing that shall be required when application is made for a permit for the erection of one (1) story dwellings, barns and sheds, or other structures, additions and alterations, the cost of which does not exceed one thousand (1,000) dollars, provided that such plan shall be accompanied by a proper specification and quarter scale floor plans and cross sections showing the other dimensions and construction of the building or structure.

Sec. 8. Scale of Situation Plan—

When the lot to be shown thereon shall be less than one hundred (100) feet in its narrowest dimension, and not more than two hundred (200) feet in length, such plan shall be drawn to a uniform scale of one-sixteenth (1-16) of an inch to the foot. When such lot shall exceed either of the aforesaid dimensions, the plat shall be drawn to a scale of one-thirty-second (1-32) of an inch to the foot. Such plans if drawn to an engineer's scale, one to two hundred (200) and one to four hundred (400), shall be accepted as equivalent to the one-sixteenth (1-16) and one-thirty-second (1-32) respectively as aforesaid.

Sec. 9. Survey of Lot—

Each application for a building permit for buildings hereafter to be erected along street lines shall, unless the requirements of this section can be shown without confusion on the situation plan, be accompanied by a plat of the survey of the lot showing the figured length of the line, grade and elevations of the curb and sidewalk along such street lines. Such street lines and elevations shall be checked, verified and certified to by the City Engineer, who, when he deems it necessary or when requested by any applicant for a building permit, shall establish the line and grade upon the ground.

Sec. 10. Requirements of Drawings—

All such plans and drawings as are by this Code required to be filed with the Inspector shall be drawn on paper or cloth in ink, or by some process that will not fade or obliterate, to a scale of not less than one-eighth (1-8) of an inch to the foot. except as otherwise provided in Sec. 13 of this Title. All distances, heights, dimensions, thicknesses and sizes of walls, supporting members, structural parts and openings, shall be accurately figured and drawings made accurate and complete, showing the entire sewerage, drain, soil and waste pipes, location of all plumbing fixtures, furnaces, boilers, and other heating apparatus, hot air and steam, or hot water heating pipes, electrical wiring, and gas and electric lighting outlets in such building. The names and addresses of the owner and the architect. author or maker of such plans and drawings shall be indelibly inscribed thereon.

(See Parts VI, VII and VIII for special plans of plumbing, electricity and boilers.)

Sec. 11. Drawings Required—

The number of such drawings to be filed shall be the general architect's drawings, consisting of a foundation and footing plan, basement or cellar plan, and the plans of the upper floors and roof, a transverse and longitudinal section, and at least two (2) elevations and the necessary framing plans to show the complete framing of the building or structure. If such framing plans do not show the dimensions of the members or parts of the frame, such dimensions shall be scheduled in the specifications.

Sec. 12. Superimposed and Typical Plans—

Nothing in any previous section shall be construed so as to prevent the showing of several of the floor plans superimposed over each other, provided that when there is any change or deviation in the thickness of walls or the dimensions of structural parts, such changes and deviations shall be distinctly figured and noted, and provided further that when there is a terrace or block, or group of buildings duplicated or similarly arranged, the plans of one or more, typical of all, need only be submitted, but every distinct building or part of such terrace, block, or group shall be shown on the situation plan, and each such distinct building or part shall be classed as one building and separate permits shall be issued accordingly. The provisions of this section shall also apply to duplicate detached buildings when erected upon several subdivisions of an allotment.

Sec. 13. Drawings—Scale Enlarged—

All plans of buildings in which the requirements of Sec. 10 cannot be shown without confusion, or in which the hot air, steam or hot water heating pipes, electrical conduit, or wires, or the plumbing or gas pipes are concealed in floors or in wall chases or niches, shall be drawn to a scale of at least one-quarter (1-4) inch to the foot, and the trimmed openings in the floor frame, or chases, and recesses in the walls, or the clearance of their enclosure in stud partitions, shall have their dimensions figured and their location tied up to some fixed point or opening connected with the figured general dimensions. All openings larger than three (3) inches square in fireproof floor construction, shall be similarly located on the plans (see Sec. 13, Title XV, Part II.)

Sec. 14. Detail Drawing of Part—

Should the Inspector find that the provisions of the above section do not definitely or clearly show the framing of the structural parts as therein provided, he shall require that three-quarter (3-4) inch details be submitted for such parts or any structural complex part or joint which is not standard. Every set of plans shall be accompanied by complete details at not less than the three-quarter (3-4) scale aforesaid showing the structural framing of all projections or appendages which overhang the street line, or trespass upon public property as prescribed in

Title III, Part III, and all three-quarter (3-4) **inch scale** details as prescribed in this section, shall be accurately figured.

Sec. 15. Drawings and Other Data—

The Inspector shall, when he deems it necessary, call for all other data, calculations and strain sheets to be submitted for all framed work as prescribed in Title V, Part II. He shall require all other drawings, details and specifications, samples of materials, and results to be submitted, or tests made as prescribed in other Titles of this Code.

Sec. 16. Specifications—

Each set of plans submitted for permit shall be accompanied by a set of specifications describing all materials to be used and the work contemplated to be done in clear and specific language sufficient to enable the Inspector of Buildings to obtain full and complete information as to the extent and character of the work to be done.

Sec. 17. Character of Specifications—

Specifications shall be written in ink, or typewritten, or printed. The various subjects therein shall be grouped in the order of their construction, and for the purpose of facilitating the examination thereof by the Inspector, shall be indexed.

Sec. 18. Reference to Building Code—

When a specification has occasion to refer to the Building Code for any applied method, manner or detail of construction, or material to be used, it shall be made by reference to the section or sub-section and title number, and if such section or subsection contain more than one subject, the subject or part thereof referred to shall be quoted in full, and any specifications in which general expressions are used to the effect that the work shall be done, or the plans carried out to the satisfaction or approval of the Inspector of Buildings, or in accordance with the Building Code, shall be deemed to be incomplete or imperfect.

Sec. 19. Alteration or Erasure of Plans—

It shall be unlawful to erase, alter, or modify any lines, figures, or coloring contained upon any such drawings or specifications filed with the Inspector of Buildings. If during the progress of the execution of such work it is desired to deviate in any manner affecting the construction or other essential of the building, from the terms of the application, plans or specifications, notice of such intention to alter, or deviate, shall be given in writing to the Inspector of Buildings and his written assent be obtained before such alteration or deviation may be made. If such change or deviation affects the bearing or structural parts of such building, or its classification or grade of occupancy, new plans thereof shall be submitted to the Inspector of Buildings for approval.

Sec. 20. When Permits not Required—

Permits are not required for minor interior repairs where there is no interference with the construction of the building.

Permits are not required for repairs or partitioning off in buildings which do not involve any change in their supporting walls, members or structural parts, or in their stairways, elevators, fire escapes or other means of communication, or ingress or egress, or light or ventilation, or classification, the fact to be determined in each case by the Inspector of Buildings.

Permits are not required for fences, signs or billboards, except as provided in Title III, Part III.

Sec. 21. Certificate of Supervising Engineer Required—When—

Before issuing a certificate for the erection, construction, alteration or enlargement of any building or structure, the plans or specifications of which show that a steam boiler or furnace is to be constructed therein, the Inspector of Buildings shall require the applicant for such certificate to file for record in the office of the Department of Buildings the certification in writing of the Supervising Engineer that the requirements of the ordinances of the city relative to the construction or alteration of such steam boiler or furnace have been complied with.

Sec. 22. Examination of Plumbing Plans—

When any plumbing plans or specifications are by the Board of Health submitted to the Inspector of Buildings it shall be the duty of the said Inspector of Buildings to carefully examine said plans to determine whether or not such plumbing construction will in any manner interfere with the framing or any structural member or part of such building, or in any way make such building or any part thereof unstable or unsafe. Upon the completion of such examination he shall stamp said plans with his approval or disapproval and immediately return them to such Board.

Sec. 23. Plans, Etc., to be Submitted to City Electrician—

Before issuing a certificate for the erection, alteration or enlargement of any building or structure, the plans or specifications of which show that electrical construction is to be installed therein, the Inspector of Buildings shall cause the plans and specifications thereof to be submitted to the City Electrician. and shall not issue a permit therefor until the said City Electrician shall have certified in writing that such plans and specifications provide for compliance with the ordinances relating to electrical equipment and construction.

Sec. 24. Permit to Increase Height of Building—

No permit to increase the height of any building shall be issued unless the owner of said building shall furnish the Inspector of Buildings satisfactory proof of the adequate thickness of the wall or strength of the skeleton frame thereof.

When application shall be made for a permit to move, raise, enlarge or build upon any building, the Inspector of Buildings shall examine such building and make a record of its condition.

Sec. 25. Permit to Erect Part of Building—

Nothing in this Title shall be construed to prevent the Inspector of Buildings from issuing a certificate for the erection of any part of a building or structure, where plans and detailed statements have been presented for the same before the entire plans and detailed statements of said building or structure have been submitted, provided that a complete set of all such plans and specifications as prescribed in Sec. 29 shall be placed on file before the foundation wall is brought to grade, or to a height to receive the first tier of beams, girders or joists.

Sec. 26. Permits for Superstructure—

No certificate for a permit shall be issued for the erection of the superstructure of any building above the foundation or basement wall, until all copies of approved plans and specifications and details required by the provisions of this Title are placed on file in the Department of Buildings.

Sec. 27. Imperfect Plans and Specifications—

If the matter mentioned in any application for a permit or in the plans and specifications accompanying and illustrating the same indicate to the Inspector of Buildings that the work to be done is not clearly or specifically defined, or is imperfect, or is not in all respects in accordance with the provisions of this Code, he shall refuse to issue a certificate or permit until such application and plans and specifications shall have been made to conform in every respect with the requirements thereof. All unfigured plans shall be deemed incomplete.

Sec. 28. Certificate for Permit to Issue—When—

When such applications and plans and specifications conform to the requirements of this Code, the Inspector of Buildings shall issue a certificate for a permit and shall file such applications and apply to such plans and specifications an official stamp stating that the drawings and specifications to which the same shall have been applied have been examined by him and do comply with these regulations.

Sec. 29. Stamped Plans—

The plans and specifications so stamped shall then be returned to such applicant, and certified copies of the same shall be kept on the building or work until same has been completed. True copies of so much of said plans and specifications as may be required in the opinion of the Inspector to illustrate the features of construction and equipment of the building referred to in this Code shall be filed with the Inspector before the basement or cellar wall has reached the height prescribed in Sec. 26, and shall remain on file in his office until the completion or occupation of said building, after which such drawings and specifications shall be returned by the Inspector to the owner by whom they have been deposited with him, upon the demand of said owner. All drawings and specifications while in the custody of the Department of Buildings shall not be removed from their files except for the purpose of official inspection and reference.

Sec. 30. Retention of Drawings—

It shall not be obligatory upon the Inspector to retain such drawings in his custody for more than three (3) months after the completion or occupation of any building, except that all buildings of the First Grade, and Divisions (a) and (b) of the Second Grade, and all other buildings in which there are stand-pipes or sprinkling systems, shall have plans to a one-sixteenth (1-16) inch scale prepared for permanent file, and such plans shall show the public halls, stairs and exits to the exact scale and be figured.

Sec. 31. Applications Passed on in Order—

All applications, plans and specifications shall be dated by the Inspector and taken up in their regular order as received, and no plans or specifications shall be passed out of their order unless buildings or structures are of a complex character which require prolonged examination and inspection. The original plans and specifications shall be returned to applicant within three (3) working days from the time of filing the same.

Sec. 32. Permit for Stables—

No permit shall be given for the construction of stables fronting on alleys or located on interior lots before arrangements are made for proper drainage, sewerage and water supply. (See Title XXXIII, Part II.)

Sec. 33. Special Permits—

The Inspector of Buildings shall not issue any certificates or permits for any occupancy of or construction on public property requiring the approval of the Board of Public Service, or for any structure to be used in connection with a business requiring a special license or approval of the Fire Department or Board of Health until the applicant shall present the certificate of such Boards, or Department, that all legal requirements necessary to procure such license or occupancy have been complied with.

Sec. 34. Separate Permits—

The building permit shall carry witn it the right to install any elevator, lift, crane or derrick, gasfitting, heating or lighting apparatus, if they are clearly shown and specified on the plans and specifications and details prescribed in this Title, to be filed with the application. See also Sec. 5, Title XXXII, Part II, and Sec. 4, Title I, Part III. If they or any of them are not so shown, a separate application containing the name of the contractor shall be filed for each and a separate permit obtained therefor.

Separate permits shall also be required for the erection, placing, installation or reconstruction of all sidewalk elevators, vaults, lifts, chutes, coal-holes and all signs and awnings overhanging public property. The Inspector's certificate for signs and awnings, overhanging or appurtenances occupying public property, shall be presented to the Board of Public Service for issuance of permit. See Sec. 31, Title III, Part III.

Sec. 35. Deposits for Repairs—

No certificate for a permit shall be granted to erect or repair any building, sidewalk vault, sidewalk elevator, lift, chute or coal-hole, or for making any opening in any street or public ,property in connection with any building operations by which the pavement or curb in any adjoining street or thoroughfare is liable to be taken up or endangered by caving, settling, or from any other cause, until the owner has filed with the Inspector of Buildings the necessary certification that the necessary deposit or indemnity bond for the replacement of such pavement or curb demanded by the Board of Public Service has been made or executed.

Sec. 36. Final Inspection—

It shall be the duty of the Inspector of Buildings to make or cause to be made a final inspection and examination of all buildings of the First, Second and Third Grades before any such building is occupied, and if such buildings are found to have been constructed in conformity to the provisions of this Code, to issue a written certificate thereof to the owner. The owner shall notify the Inspector of Buildings when the building is ready for such inspection.

Sec. 37. Clerk to Issue Permit—

All certificates issued by the Inspector of Buildings which prescribe the payment of a fee shall be presented to the City Clerk, and upon the payment of the fee, he shall issue the permit to build, or a further certificate, as the case may be, that proper inspection of the premises has been made.

Sec. 38. Metal Numbers—

It shall be the duty of the City Clerk, upon the presentation of the certificate to build or erect any new building, or to alter any existing building by which the area, size or height is increased, to issue with the permit a metal seal or tag of a serial number, irrespective of that on the permit, which is to be fixed upon the building in a conspicuous place, and to remain there until the building is occupied. A duplicate of such assigned number shall be sent to the County Auditor.

Sec. 39. Right to Trespass—

The Inspector of Buildings, and his deputies, assistants, or employes assigned by him, or persons assigned to co-operate with him by other departments of the City, so far as may be necessary for the performance of their duties, shall have the right to enter upon any building site or premises, or any new or unoccupied building, or any building under construction, repair, alteration, removal or any building alleged to be unsafe or a menace to life and limb, or damaged or menaced by fire, upon showing their badge of office; and any person or persons interfering with them in the performance of such duties shall be liable to penalty provided in Sec. 41.

Sec. 40. Revocation of Permits—

When the work for which any building permit was issued is not being performed in conformity to the detailed statement, plans or specifications upon which such permit was issued, it shall be the duty of the Inspector of Buildings to notify the owner or owners, or his or their agent, in writing, that the work is being constructed in violation of the permit, and that such work must be suspended until a permit for such deviation from the detailed statement, plans or specifications be obtained, or that such work shall be made to conform to the detailed statement, plans and specifications upon which a permit therefor was issued. If the owner or owners, or his or their agent, fail to comply with the said notice on the service thereof, it shall be the further duty of the said Inspector to revoke said permit. Written notice of such revocation, signed by the Inspector, shall be immediately served upon the owner, agent, superintendent or contractor in charge of the work, and shall be posted on such premises, and it shall be unlawful for any persons to perform any work in or about said structure, building or premises after the revocation of the permit and the posting of notice thereof.

Sec. 41. Penalty for Violation—

The owner or owners of any building, structure, wall, platform, staging, or flooring, or part thereof, where anything in violation of this Code shall be placed, or shall exist, and any architect, builder, plumber, carpenter, or mason who may be employed or assist in the commission of any such violation, and all persons or corporations who shall violate any of the provisions of this Code or fail to comply therewith, or any requirement thereof, or who shall build in violation of any detailed statement of specifications or plans submitted and approved thereunder, shall for each and every such violation, or non-compliance, be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than five (5) dollars, nor more than five hundred (500) dollars, or imprisoned not more than six (6) months.

TITLE V.

FEES.

Sec. 1. Schedule of Charges—

The Inspector of Buildings shall make out the certificate required by Section 28, Title IV, and fix the fee to be paid to the City Clerk, as prescribed in Section 37, Title IV., for the building permit and for inspections as follows:

(a) AREAS AND STORY HEIGHTS.—For new buildings and structures one (1.00) dollar, and for alterations and additions fifty (50) cents, to which there shall be added for new buildings one (1) or more stories high above the grade, and for additions by which the area or height of a building is increased, or for alterations by which the classification of a buildng is changed, the amounts given in the following schedule for each story or gallery or part thereof erected, added or altered:—

Class of Buildings.	Add Area of Building at Each Floor Level.
VII	$0.25 for every 1,500 sq. ft. or part thereof.
VI	0.50 for every 3,000 sq. ft. or part thereof.
IV-V	0.75 for every 4,500 sq. ft. or part thereof.
I-II-III	1.00 for every 6,000 sq. ft. or part thereof.

The character of the first story of a building shall determine the classification for fixing charges for permits.

Measurements for areas occupied shall be made inclusive of all exterior bays, balconies and porticos projecting beyond the building line and all inner, interior, lighted, open and recessed courts within such lines. Where one portion of a building is of greater height than another the measurement of the highest portion shall be taken at its base.

(b) UNDIVIDED INTERIOR.—When the enclosed interior of a building is not divided into stories or galleries each section of twenty-five (25) feet or part thereof of height (See Tables D and E, Title VIII, Part II) shall be deemed the equivalent height of a story; this provision shall also apply in the measurement of roofs and attic spaces and roof appendages above the attic floor line or springing line of pitched roofs, and all free standing water and other towers, grain elevators and chutes.

(c) BASEMENTS WHEN REGARDED AS FIRST STORY.—The basement shall be regarded as the first story of every building in which the basement is used for living rooms or offices, or is subdivided for workshop or factory purposes other than for storage or packing, or the first floor level of which is more than four feet above the grade.

Sec. 2. Fees for Basements—

The charge for a partial building permit for excavating and erecting the foundation or basement walls in advance of the superstructure as prescribed in Section 25, Title IV, or for retaining walls to hold up embankments, shall be one (1.00) dollar. The aforesaid fee shall be in addition to the amount prescribed for new buildings and structures in Sec. 1 (a).

Sec. 3. Fees for One-Story Buildings and Sheds—

The charge for a permit to erect open shelter sheds, storage sheds, one (1) story dwellings, barns, carriage houses, automobile garages or arbors, occupying more than two hundred and fifty six (256) square feet and less than seven hundred and fifty (750) square feet of ground area, shall be fifty (50) cents, but there shall be no charge for such structures occupying less than two hundred and fifty-six (256) square feet of ground area, provided that in each instance an application for a permit, accompanied by a situation plan shall have been filed and approved by the Inspector before such structures are built.

Sec. 4. Bridges and Runways—

The fee for a permit to erect an open bridge or enclosed runway between or from buildings, to be erected or already erected, shall be fifty (50) cents for each span of such bridge or runway placed at the same or at different levels above the head room nearest the grade.

Sec. 5. Separate Permits—Fees for—

The fee for any separate permit for the erection, installation, or placing of any elevator, lift, crane, derrick, heating, gasfitting or lighting apparatus, shall be fifty (50) cents.

Sec. 6. Elevators—

The fees prescribed in Sec. 7, Title II, Part V, for the inspection of elevators is further contingent upon the following conditions:

The fee of two (2.00) dollars shall be paid when any freight or passenger elevator or sidewalk elevator or lift, or any fixed, moveable or travelling crane or derrick is temporarily or permanently installed, tested and inspected within a building or on any premises or building site or yard where building or other materials or bulk packages are worked, manufactured or shifted. If on inspection any portable elevators, derricks, cranes, swinging scaffolds, or block and tackle used for hoisting materials in or into buildings shall be found in good condition no charge shall be made, otherwise a renewal certificate shall be obtained for which a fee of one (1.00) dollar shall be charged. All hoists, lifts, block and tackle, derricks, cranes, dumb waiters, swinging ladders or scaffolds, whose carrying capacity is more than two hundred (200) but less than five hundred (500) pounds shall be inspected as prescribed in Sec. 4, Title III, but no fee shall be charged for their inspection.

Sec. 7. Observation Stands—

Fees for permits for the erection of temporary or permanent observation stands, as prescribed in Title XXXV, Part II, shall be the same as prescribed for buildings and their equivalent areas, as prescribed in Sec. 1.

Sec. 8. Water Rates—

No permit shall be granted for the erection, alteration or repairing of any building or structure unless the owner first furnishes the Inspector of Buildings with a certificate from the Water Works Department, stating that all its rules and regulations in regard to the use of water for his building operations have been complied with. When no meter is to be installed, the Inspector shall make out and furnish the owner the quantities of building materials for which water is used in construction, and estimate the amount of the charge to be paid as follows:

Perch work—stone footings, etc	1c per each 10 cu. ft.
Cement sidewalks and floors, concrete	1c per each 10 cu. ft.
Brick work	1c per each 10 cu. ft.
Fireproof floors, tile facings and partitions,	1c per each 20 cu. ft.
Fireproofing concrete	1c per each 10 cu. ft.
Tile partitions (not over 6 in. thick)	1c per each 40 sq. ft.
Plastering	1c per each 10 sq. yds.

Sec. 9. Fees for Establishing Street Lines—

The City Engineer shall, for performing the work of establishing street lines and grades in accordance with Sec. 9 of Title IV., Part I., charge and require the owner to pay therefor at the following rates:

For an interior lot with one frontage	10c per ft. or part thereof.
For an interior lot with two frontages	8c per ft. or part thereof.
For a corner lot with two frontages	8c per ft. or part thereof.
For a corner lot with three frontages	6c per ft. or part thereof.
For an open lot with four frontages	4c per ft. or part thereof.

The minimum fee charged in any case shall be $5.00.

TITLE VI.

HOUSE-MOVING.

Sec. 1. House-Mover's License—

No person, except a licensed house-mover, shall move or raise any building from its foundation within the City of Cleveland, and every such person shall annually before engaging in such occupation, obtain a license therefor from the Board of Public Service, and no such license shall be granted until the person applying therefor shall have given bond in the sum of $1,000 with good and sufficient sureties to be approved by the Board of Public Service, conditional among other things that said person will pay any and all damages which may happen to any tree, pavement, street or sidewalk, or to any telegraph pole or wire belonging to said City, whether said damage shall be inflicted by said person or his agents, employes or workmen, and conditioned also that said person will save and indemnify and keep harmless said City against all liabilities, judgments, damages, costs and expenses which may in any wise accrue against said City in consequence of the granting of such permit or license, and will in all things strictly comply with the conditions of his permit. Upon execution of said bond and its approval by the Board of Public Service of said City, a license to engage in such occupation shall be issued.

Sec. 2. Occupation of Street—

No person shall move, or cause to be moved, any building through any street without the written permission of the Inspector of Buildings, and no person moving any building shall permit the same to stand on any street, lane, alley or public ground for a longer period than three days.

Sec. 3. License—

No permit shall be granted to any person to move any building through any street, lane, alley or public ground unless such person shall have received a license from the City of Cleveland to engage in the occupation of moving and raising buildings in said City.

Sec. 4. Permit—

When any licensed building mover shall desire to move or raise any building in the City of Cleveland, application for a permit to do so shall be made by him in writing to the Inspector of Buildings of said City.

The application shall state the following facts:

(a) The class and grade of building.
(b) Width of building.
(c) Length of building.
(d) Number of stories.
(e) Street, where located.
(f) Where to be moved to.
(g) Route.
(h) Allotment to be placed on.
(i) Number of sublot.
(j) Ward in which building will be located.
(k) Name and address of owner of building.
(l) When work to commence.
(m) When work to be completed.

Sec. 5. Fee—

When there has been deposited with the City Clerk the sum of two (2) dollars and such written application made to the Inspector of Buildings, the Inspector of Buildings shall immediately cause such building to be inspected, and if he shall find that it can be moved safely in the manner proposed and that the moving thereof will violate no ordinance of the city, he shall cause a certificate for the said permit to be issued to the applicant.

TITLE VII.

BOARD OF APPEAL.

Sec. 1. Creation of the Board—

There shall be in the City of Cleveland a Board to be called the Board of Appeal, to which an applicant who has been refused a permit, or the holder of a permit which has been revoked by the Inspector of Buildings, may appeal for an order requiring the said Inspector to issue or reissue such permit to said applicant.

Sec. 2. Organization—

Such Board of Appeal shall be composed of the Mayor, the City Solicitor and the City Engineer. Whenever for any reason a member of such Board cannot be present at a called meeting thereof, his first assistant in office shall act in his stead. Such assistant shall act only in matters for the consideration of which such meeting was called.

Sec. 3. Applicant—

The Applicant may be represented by counsel and one (1) Expert whom he may select at his own expense.

Sec. 4. Meeting—

Such Board shall meet upon call by the Inspector of Buildings.

Sec. 5. Method of Appeal—

In case the Inspector of Buildings shall refuse to issue a permit upon application or shall revoke a permit, the applicant or holder of a revoked permit may, within five days after the receipt of notice of the Inspector's refusal or revocation, appeal to the Board of Appeal for an order requiring such Inspector to issue or reissue such permit. Such appeal shall be perfected by the filing by the applicant with the Inspector of Buildings of a notice of his intention to appeal. Upon filing of such notice the Inspector of Buildings shall, within three days thereafter, transmit a copy of such notice of appeal, together with a written statement of the matter in controversy and the reasons for the refusal or revocation made by him, to the Mayor, who shall thereupon summon the Board of Appeal to meet within two days thereafter for the hearing of such appeal, causing notice of the time and place of such meeting to be served to the applicant and to the Building Inspector.

Sec. 6. Powers of Board—

The said Board shall have power to call in such other testimony bearing upon the case as it sees fit. Should such Board or a majority thereof, be of the opinion that the Inspector's refusal to issue the permit applied for, or that the revocation of such permit was unauthorized, they shall, in writing, order the said Inspector to issue or reissue such permit, and the Inspector shall immediately upon the receipt thereof accompanied by the required fees, if any, comply therewith.

Sec. 7. Recommendations—

If such Board in its review find any provisions in this Code that are inconsistent or do not properly protect life, limb and property, or that additional provisions should be prescribed for such protection, such finding shall be reported to the Inspector of Buildings with recommendations that they be embodied in the annual or semi-annual reports of the Department of Buildings to the City Council for amendment.

Sec. 8. Records—

All papers and testimony relating to cases of appeal shall be recorded in books kept for such purpose in the office of the Department of Buildings. See Sec. 4, Title II.

Sec. 9. That Sections 86, 239, 240, 314, 315, 316, 584, 585, 587, 902, 905 and 906 of the Revised Ordinances of 1896 be and the same are hereby repealed.

Sec. 10. This Ordinance shall take effect and be in force from and after its passage and legal publication, except as to Title I, Part I, which shall become effective upon the passage of the Appropriation Ordinance in January, 1905, and the appointment thereafter, by the Mayor, of the Inspector of Buildings as herein provided.

Ordinance No. 44404-A.

AN ORDINANCE to regulate the erection of buildings and the sanitary condition thereof, fences, buildings, signs and other structures within the corporate limits of the City of Cleveland; to regulate the repair of alterations in and addition to buildings; to provide for the construction and placing of elevators, stairways and fire escapes in and upon buildings, and to provide for the carrying into effect of Sub-Section 13 of Section 7 of an act of the General Assembly of Ohio, passed October 22, 1902, entitled "An act to provide for the organization of cities and incorporated villages, and to repeal certain sections of the Revised Ordinances of the City of Cleveland of 1896."

Whereas, Sub-Section 13 of Section 7 of an act of the General Assembly of the State of Ohio, passed October 22, 1902, confers upon the City of Cleveland the power to regulate the erection of buildings, fences, billboards, signs and other structures, and to regulate the repair of and alteration in buildings and addition to buildings, and to provide for the contruction, erection and placing of elevators, stairways, fire escapes in and upon buildings, and to provide for the removal and repair of insecure buildings, billboards, signs and other structures, and to provide for the inspection of all buildings and other structures; and

Whereas, This Council deems it expedient to systematize all the ordinances of the City of Cleveland bearing upon the power so conferred and has had prepared the following sections as portions of a building code to be adopted by way of ordinance; and

Whereas, It is expedient that so much of said code as is already completed should be enacted for the guidance of persons whose conduct may be affected thereby;

Now, therefore, Be it ordained by the Council of the City of Cleveland, State of Ohio, That

Section 1. The following titles, sub-titles and sections constituting portions of said building code be and the same are hereby enacted, passed and ordained to be municipal laws and regulations of the City of Cleveland:

PART II.

BUILDINGS AND STRUCTURES.

TITLE I.

DEFINITIONS.

In these regulations the following terms mean:

Sec. 1. Alley—

Any public thoroughfare less than thirty (30) feet wide shall be deemed an alley, and if such thoroughfare is less than sixteen (16) feet in width it shall be deemed a court-way, and be a passageway if the entrance to any alley or court or court-way is made through a building.

Sec. 2. Alteration—

Any change, addition or modification in construction or grade of occupancy.

Sec. 3. Areas—

Open sub-surfaces adjacent to a building or lot line.

Sec. 4. Attic Story—

A story situated wholly or partly in the roof.

Sec. 5. Appendages—

Dormer windows, cornices, mouldings, bay or oriel windows, balconies, cupolas, domes, towers, spires, ventilators, or any other accessory projecting from a building.

Sec. 6. Basement—

A story, suitable for business or habitation, partially below the level of the adjoining street 'or ground and below the first tier of floor beams or joists. When a basement ceiling is more than eight (8) feet above the grade at the building line it will be rated as the first story or ground floor.

Sec. 7. Bay Window—

A rectangular, curved or polygonal window supported on a foundation which projects from the balance of the enclosing wall. When such projecting window is supported on brackets or corbels, see "Oriel Window," Sec. 37.

Sec. 8. Building—

Any structure erected by art and fixed upon or in the soil, composed of several pieces and designed for use in the position in which so fixed.

Sec. 9. Building Line—

The line formed by the intersection of the outer face of the enclosing walls of a building and surface of the ground. See also Street-Line, See Sec. 43 under this title.

Sec. 10. Base Course or Base of Building—

The course or courses of masonry next to the grade line.

Sec. 11. Bay and Panel—

One of the intervals or spaces into which a building front is divided by columns or division walls. The floor space included between the intersection of parallel rows of columns or walls of two bays at right angles to each other and the face of a wall between two (2) adjoining pilasters or piers, is called a panel.

Sec. 12. Building Lot or Site—

(a) OPEN LOT.—When bounded on all sides by street lines.

(b) CORNER LOT.—When bounded on two (2) or three (3) sides by intersecting street lines.

(c) THROUGH LOT.—When running through to and fronting on two (2) street lines and the remaining sides bounded by lot lines.

(d) INTERIOR LOT.—When fronting on but one (1) street line and the remaining sides bounded by lot lines.

Sec. 13. Cellar—

That portion of a building below the first tier of floor beams or joists if wholly or partly below the grade of the adjoining street or ground and not suitable for habitation under the provisions of this code.

Sec. 14. Columns—

Isolated supports of wood, stone, iron or steel carrying the ends of beams, girders, lintels or trusses. Stone, iron or steel columns may also carry arches.

Sec. 15. Courts—

A court is the unoccupied space between building lines and lot lines other than a yard, free, open and unobstructed by appendenges from the ground to the sky.

(a) INNER COURT.—A court surrounded on all sides by walls is an inner court, and when such inner court is covered over with a skylight it is a Lighted Court.

(b) OPEN COURT.—A court having one side or end open is an Open Court, and when such opening is on a lot line it is an Interior Court, and when it opens on a street or yard it is an Outer Court.

(c) OUTER COURT.—An Outer Court open to the street is a Street Court, and on a yard a Yard Court, and when such Street or Yard Courts adjoin lot lines it is a Line Court.

(d) COURT-YARD.—A Court between the backs of two (2) buildings on the same lot. which is open on the two (2) ends adjoining the lot lines is a Court-Yard.

(e) COURT-WAY.—When an Outer or a Line Court opens through to another court or yard, or to a street or alley, it is a Court-Way.

(f) RECESSED COURT.—An Open Court opening into another court, court-yard or court-way is a Recessed Court.

Sec. 16. Factor of Safety—

The quotient obtained by dividing the breaking load by the safe load.

Sec. 17. First Story—

The story the floor of which is at or first above the level of the sidewalk or adjoining ground; the other stories to be numbered in regular succession, counting upward.

Sec. 18. Foundation—

1st—All that portion of a building or a structure below the top or footings or basement or cellar floor; 2nd—the earth upon which the structure rests.

Sec. 19. Footings—

The projecting course or courses at the bottom of a foundation wall or pier.

Sec. 20. Grade—

The surface of the ground, court, lawn, yard or sidewalks adjoining the building. The established grade is the grade of the street curb lines fixed by the City of Cleveland and the natural grade is the undisturbed natural surface of the ground. (The established side-walk grade for the City of Cleveland is three-eighths (3-8) of an inch rise per each foot of width—starting at and from the top of curb.)

Sec. 21. Girder—

The horizontal structural piece or pieces which support the ends of floor beams or joists or carry walls over openings. (See "Lintel" Sec. 34.)

Sec. 22. Ground Floor—

The story at or near the level of the grade when used for public purposes; the other stories beginning with second for the first next above shall be designated by successive floor numbers, counting upward.

Sec. 23. Hall—

(a) PUBLIC HALL.—A Public Hall is a hall, corridor or passageway used in common by all the occupants within a building.

(b) STAIR HALL.—A Stair Hall includes the stairs, stair landings and those portions of the public halls through which it is necessary to pass in going between the entrance floor and the roof.

(c) ASSEMBLY HALL.—(See Title II.)

Sec. 24. Height of a Building—

The height of a building is measured on the center line of its principal front from the established or natural grade at the building line to the highest point in the coping of flat roofs or to the deck line of a mansard roof or to the center height of the highest gable in a pitched roof or to half the height of a hipped roof. If the grade of the lot or adjoining street in the rear or along the side of the building falls below the grade of the front, the height shall be taken in the center of side showing the greatest fall. If the total fall on any side exceeds ten (10) feet in the length of the building, the height shall be measured at the lowermost corner, and when the height of a building is limited it shall be terraced or stepped off at every ten (10) foot change of grade.

Sec. 25. Height of a Wall—

The height of a wall is measured from its base line either at the grade or at the top of a girder to top of the coping or the center of the highest gable; foundation and retaining walls are measured from grade downward.

Sec. 26. Height of a Story—

The perpendicular distance from top to top of two (2) successive tiers of floor beams or joists, or "top of floor to top of floor." The clear height of a story or a room is the distance from the floor to the ceiling. The height of a topmost story shall be measured from the level of its floor up to the upper side of the ceiling joist or "collar" beams forming a tie to the roof, or up to the vertical height of the rafters when the roof has no such tie.

Sec. 27. Inspector—

The Inspector of Buildings of the City of Cleveland.

Sec. 28. Incombustible Roofing—

Covered with not less than three(3) thicknesses roofing-felt and a good coat of tar and gravel, or with tin, corrugated iron, or other fire resisting material with standing-seam or lap-joint.

Sec. 29. Incombustible Stud Partition—

One plastered on both sides upon metal lath or wire cloth for the full height, and fire stopped between the studs with incombustible material eight (8) inches high from the floor and at the ceiling.

Sec. 30. Incombustible Material—

When referred to as a structural material means brick, stone, terra cotta, concrete, iron, steel or sheet metal when used alone or in combination with one another. For incombustible fire and water proof materials, see Title XV.

Sec. 31. Lot Line—

The line of demarcation between either public or private properties; a party line is the lot line between adjoining properties. The building line and lot line may be synonymous along public properties. (See "Street Line" Sec. 43.)

Sec. 32. Lawn—

The sodded space in residence districts between the lot line and the building line, or between the lot line and the sidewalk, or the sidewalk and the curb.

Sec. 33. Length of a Building—

Its greatest lineal dimension; usually measured in the direction of the bearing walls or girders.

Sec. 34. Lintel—

The small beam or girder placed over a door or window opening, with the ends resting directly on the masonry.

Sec. 35. Loads on Buildings—

(a) DEAD LOAD.—Shall consist of the actual weight of walls, floors, roofs, partitions, and all permanent construction.

(b) LIVE LOAD.—Shall consist of all imposed, fixed or transient loads, other than dead, due to the occupancy of the building and its exposure to wind pressure.

Sec. 36. Owner—

Any person or persons, company or corporation owning the building, or the property under consideration or being built upon; for the purposes of this Code guardians or trustees will be regarded as the owner.

Sec. 37. Oriel Window—

A projecting window similar to a bay window but carried on brackets or corbels; the term Bay Window may also be applied to an Oriel Window projecting over the street line. (See "Bay Window," Sec. 7.)

Sec. 38. Offset—

The offset or change in thickness of a wall shall be regarded as being made at the top of the floor beams or joists.

Sec. 39. Partition—

An interior sub-dividing wall. If constructed of other material than masonry, the name or class of the structural material is usually prefixed.

Sec. 40. Piers—

Isolated masses of brickwork or masonry forming supports for arches, columns, girders, lintels, trusses and similar structural parts.

Sec. 41. Post—

A term which, when used, means a wooden support or column.

Sec. 42. Repairs—

The reconstruction or renewal of any part of an existing building for the purpose of its maintenance in its present class of construction and grade of occupancy.

Sec. 43. Street Line—

The line of demarcation where the Building Line and Lot

Line coincide along any public street, alley, park or other public property.

Sec. 44. Show Window—

A store window in which goods are displayed.

Sec. 45. Skeleton Construction—

This term shall apply to all buildings wherein all external and internal loads and stresses are transmitted from the top of the building to the foundations by a skeleton or frame work of metal.

Sec. 46. Vault—

Any underground construction covered over on top; sidewalk vaults or areas are covered areas extending beyond the street line.

Sec. 47. Veneer—

The outer facing of brick, stone, concrete, tile or metal of an enclosing wall used for the protection of the backing but not counted as adding anything to its strength.

Sec. 48. Walls—

(a) APRON WALL.—That portion of an enclosing wall between the door and window sills of a story and the door and window heads or lintels of the next story below.

(b) BEARING WALL.—The wall on which either or both the floor and roof construction rest.

(c) CROSS WALL.—Term which may be used synonymously with Partition or Return Wall.

(d) CURTAIN WALL.—The enclosing wall of an iron or steel skeleton frame or the non-bearing portion of an enclosing wall between piers.

(e) DIVISION WALL.—The bearing wall running from front to rear sub-dividing a building into several parts.

(f) DEAD WALL.—A wall without openings.

(g) EXTERNAL WALL.—Any outer wall or vertical enclosure of a building other than a Party Wall.

(h) FIRE WALL.—The coping or parapet walls above the roof. Also any division or partition wall dividing spaces into limited areas for fire protection purposes.

(i) FOUNDATION WALL.—That portion of an enclosing wall below the first tier of floor joists or beams nearest and above the grade line, and that portion of any interior wall or pier below the basement or cellar floor.

(j) LENGTH OF WALL.—The length of a wall is the distance between the centers of adjoining front, rear, cross or return walls, irrespective of any intermediate stud or light combustible or non-return brick partitions. See (n) under this section.

(k) PARTITION WALL.—Any wall running at an angle to and bonded with the bearing walls sub-dividing the interior of a building into compartments; when constructed of other materials than masonry see "Partitions" Sec. 39.

(l) PARTY WALL.—"Party Wall" means a wall that separates two (2) or more buildings, and is used, or is to be used, jointly by said separate buildings.

(m) RETAINING WALL.—A sub-surface wall built to resist the lateral pressure of the adjoining earth and to prevent its caving in. Also, any enclosing wall built to resist the lateral pressure of internal loads and to prevent its caving out.

(n) RETURN WALL.—A term which may be used synonymously with Cross, Partition or External Wall running at a right angle with any wall. No wall sub-dividing any building shall be deemed a Return Wall, as before mentioned, unless it is two-thirds (2-3) the height of the External or Party Walls.

(o) THICKNESS OF WALL.—The minimum thickness as given in this Code, measured on the bed.

Sec. 49. Width of a Building—

Its shortest lineal dimension; usually measured in the direction of the floor beams or joists.

Sec. 50. Wired Glass—

Wire woven glass not less than one-quarter (1-4) of an inch thick. The term "fireproof glass," when used in connection with wired glass, means hammered glass not less than one-half (1-2) an inch thick.

Sec. 51. Yard—

The space left in the rear of a building between the building line and the lot-lines for the full width of the lot.

TITLE II.

CLASSIFICATION OF BUILDINGS.

Sec. 1. According to Construction—

For the purposes of this Code, buildings will be classified in accordance with their construction as follows:

I CLASS.—ABSOLUTELY FIREPROOF BUILDING.—When built entirely of incombustible fire and water proof material with all metal structural parts thoroughly fire proofed, and finished and trimmed with incombustible material. See also Titles XV and XVI.

II CLASS.—FIREPROOF BUILDINGS. SHORT FLOOR SPANS:—When similar in construction to buildings of the I Class except that the finished floors, frames, doors, windows and the usual trim of rooms are of ordinary wood construction with no open air spaces behind wood. See also Titles XV and XVI.

III CLASS.—FIREPROOF BUILDINGS. LONG FLOOR SPANS:—With walls or metal structural frames similar to those of the II Class, but the floor fireproofing is made in long flat spans and panels of reinforced or armored concrete, and having incombustible partitions. For trussed concrete buildings see Title XVI.

IV CLASS. — SEMI-FIREPROOF OR COMPOSITE BUILDINGS.—When the enclosing walls and roof covering are made of incombustible materials with doors, windows, and frames of wood, but with interior walls of brick; or, with columns and girders made of fireproofed iron or steel and with the floor construction of wooden beams, joists and ceiling furred with fireproof material and all concealed spaces fire stopped and all subdivisions made with incombustible partitions, or if the interior is of mill construction as in Class V, wood columns containing one hundred (100) square inches or more need not be fire proofed. In buildings of this class a single thickness of metal lath or furring and hard incombustible plaster will be deemed sufficient protection.

V CLASS.—MILL CONSTRUCTED BUILDINGS.—When the enclosing walls and roof covering are made of incombustible materials, with doors, windows and frames of wood, but with interior walls of brick or columns and girders and the floor and roof systems composed of heavy timbers and plank with no concealed air spaces between.

VI CLASS.—ORDINARY BUILDINGS:—When the enclosing walls and roof coverings are similar to those of buildings of the IV and V Classes but the interior timber and iron structural parts are not protected with fire resisting covering.

VII CLASS.—FRAME BUILDINGS:—When the enclosing and interior partition walls are constructed entirely of wood.

Wooden frames covered with a Veneer (see Sec. 47, Title I), will be classed as a building of the VII Class.

Sec. 2. Explanation of Terms—

The terms "Fireproof," "Concrete," "Mill," "Timber," or "Frame," construction when used mean that the whole or any part of a building or structure referred to shall be constructed in accordance with the conditions prescribed for the respective classes of buildings as set forth in the previous section and further provided in Titles XVI, XVII and XVIII.

Sec. 3. According to Occupancy—

And for further classification under **this Code, buildings will be graded in accordance with their occupancy and uses as follows:**

FIRST GRADE.

PUBLIC BUILDINGS.—All buildings devoted in whole or in part to the use of the general public, either for the purposes of state or places of assemblage.

Div. (a) PUBLIC BUILDINGS PROPER.—Buildings designed to be occupied by State, County, or City administration offices; court rooms, libraries, museums, art galleries or council chambers. United States Government buildings are regarded as belonging to this division but are deemed to be without the jurisdiction of this Code.

Div. (b) DETENTION BUILDINGS.—Includes all public or private hospitals, reformatories, prisons and police stations.

Div. (c) SCHOOL BUILDINGS.—Includes all school and college or other buildings containing class, drawing, lecture rooms or rooms for the purpose of education or instruction. If any such building has an assembly room of greater seating capacity than the seating capacity of four (4) of the class rooms therein, scuh assembly room will be deemed an Assembly Hall.

Div. (d) ASSEMBLY HALLS.—Includes all churches, convention halls, auditoriums, exposition buildings, music halls, railroad depots, or that part of any building containing an assembly room for a concourse of more than one hundred (100) people.

Div. (e) THEATERS.—Includes all theaters, opera houses, play houses, pavilions, or any assembly hall designed or used for the entertainment of spectators, having a permanent stage upon which stage scenery and theatrical apparatus is employed.

Div. (f) PUBLIC UTILITY BUILDINGS.—All other buildings owned or used by the general public but not classified in the foregoing divisions.

SECOND GRADE.

QUASI-PUBLIC BUILDINGS.—All buildings used for public shelter, either for the purposes of business, manufacture, storage, or for temporary abode or habitation.

Div. (a) HOTELS.—Includes all hotels, public inns, or any building or part thereof designed to be used for supplying food or shelter to residents or guests and having a public dining room, cafe or office, or either. A public lodging house or a building used only for the shelter of residents or guests will be classified as a hotel.

Div. (b) OFFICE BUILDINGS.—Any building designed or used for office purposes in the conduct of general business, but may have a store or sales room on the ground floor, and no part of which building shall be used for living purposes excepting only for the janitor and his family.

Div. (c) STORE BUILDINGS.—Any building designed or used for the sale of merchandise or objects of utility, or general supplies.

Div. (d) WAREHOUSE.—Any building designed or used for the storage of merchandise, general or food supplies.

Div. (e) FACTORY BUILDING.—Any building designed or used for the manufacture of merchandise by machinery.

Div. (f) WORK SHOP.—Any building designed or used for the manufacture of merchandise by hand.

THIRD GRADE.

TENEMENTS.—All buildings containing suites of apartments used for permanent habitation by more than two (2) families living independently of each other.

Div. (a) APARTMENT HOUSE.—Any building or any portion thereof designed or used as a residence for more than two (2) families or households living independently of each other and in which every such family or household shall have provided for it a kitchen, set bath tub and water closet, separate and apart from any other.

Div. (b) CLUB HOUSE.—A building used or intended for use by an organization or society for mutual entertainment or recreation, having a common kitchen, dining room, and other rooms of utility and recreation and containing lodging apartments for the use of the members of the organization only will be classed as an apartment house.

Div. (c) TENEMENT HOUSE.—A tenement house is any house or building, or portion thereof, which is designed to be or is used or occupied as the home or residence of more than two (2) families living independently of each other, and doing their cooking upon the premises, or by more than two (2) families upon any floor, so living and cooking, but having a common right in the halls, stairways, yards, water closets or privies, or some of them.

Any building having a store on the first or ground floor and sleeping or living apartments on the second story for more than one family, will be classed as a Tenement House.

FOURTH GRADE.

DWELLINGS.—A dwelling shall be taken to mean and include every building which shall be intended or designed for, or used as, the home or residence of not more than two (2) separate and distinct families, and in which not more than fifteen (15) rooms shall be used for the accommodation of boarders, and no part of which structure is used as a store or for any business purpose.

Two (2) or more such dwellings may be connected on each story when used for boarding purposes, provided the halls and stairs of each house shall be left unaltered.

FIFTH GRADE.

STABLES.—Includes all buildings designed or used for public livery, boarding or transfer stables, all private barns, carriage houses, sheds, pens, coops, stock yards and slaughter houses, or any building for the feeding or sheltering of animals or fowls.

SIXTH GRADE.

MISCELLANEOUS.—All buildings and structures not classified in the above gradation. For the purposes of this Code fences, bill and sign boards, shall be deemed buildings of this grade.

Sec. 4. Explanatory—

In the above gradation when the terms prescribed are referred to by Title, Section or Division of Grades, it shall mean any building in whole or in part, occupied or designed to be occupied by the Division or Divisions of the Grade under consideration.

Sec. 5. Alterations—

If a building or any part thereof, the use or intended use of which brings it within any of the before mentioned grades, is to be applied to the use of any other grade for which a better class of construction is called for under this Code, the construction and equipment of such building must first be made to conform with the requirements of this Code as specified for its intended use.

TITLE III.

HEIGHTS OF BUILDINGS.

Sec. 1. Measurements of Heights—

For method of measurements of the heights of stories and buildings see Secs. 24 and 26, Title I, except as modified in Section 14, Title XXII.

No building hereafter erected or raised, unless otherwise provided in this Code, shall exceed the following dimensions in height; the heights on account of occupancy of attics as given in Sec. 10, Title VIII, applies to all buildings.

Sec. 2. Heights of VII Class Buildings—

No building of the VII class or any composite building which has the two (2) lower stories made of or veneered with incombustible material, or any building topped out with wooden gabled roof and dormers, shall be over three (3) stories or more than forty (40) feet in height above the grade; and no veneered VII class building shall be over two (2) stories or thirty-two (32) feet in height above the grade. The foundation or basement walls of this class of buildings shall not exceed five (5) feet above the grade. Nor shall any roof appendage thereof, except on buildings occupied as a church, exceed fifteen (15) feet above the roof and never over fifty-five (55) feet above the grade.

Sec. 3. Heights of VI Class Buildings—

No building of the VI class shall be more than four (4) stories and a basement, or sixty (60) feet in height.

Sec. 4. Heights of V Class Buildings—

Buildings of the V class may be six (6) stories but not exceeding eighty (80) feet in height.

Sec. 5. Heights of IV Class Buildings—

Buildings of the IV class shall not exceed eight (8) stories, or one hundred (100) feet in height.

Sec. 6. Heights of III Class Buildings—

No building of the III class shall exceed ten (10) stories or one hundred and twenty-five (125) feet in height.

Sec. 7. Heights of II Class Buildings—

No building of the II class shall exceed twelve (12) stories or one hundred and fifty (150) feet in height.

Sec. 8. Heights of I Class Buildings—

No building of the I class shall exceed sixteen (16) stories or two hundred (200) feet in height.

For increase of height of II and III class buildings, see Title XVI.

Sec. 9. Limitation of Heights—

No building or other structure hereafter erected, except a church spire, shot tower, water tower or smoke stack, shall be of a height exceeding two and one-half (2 1-2) times the width of the widest street upon which the building faces, but no building shall be over two hundred (200) feet high. If a building is set or recessed with a court back from the street, the measurement for the width of the street may be taken from the face of such set back or recessed line to the street line on the opposite side of the street. The height of such building may then be carried up correspondingly. When a building is both set back and recessed, the recessed portion back of the recessed building line may be carried up above the other portion, but no higher than the two hundred (200) foot limit. The space between the street and building line of any such set back or recess may be built over to the height of two (2) stories but not over thirty (30) feet.

When story and building heights are not limited use schedule of heights given in columns I and IV of Table B, Title VIII.

Sec. 10. Heights Limited According to Width of Building—

No building shall exceed in height the following times its least dimension at the base:

For buildings of the I, II and III classes, with skeleton frame, five (5) times; with masonry walls only, four (4) times. For buildings of the IV and V classes, three (3) times. For buildings of the VI class, two and one-half (2 1-2) times. For buildings of the VII class, one and three-quarters (1 3-4) times.

This also applies to wings of buildings whose length exceeds two and one-half (2 1-2) times their width, provided, no building shall exceed the maximum height established for its respective class.

TITLE IV.

QUALITY OF MATERIALS.

Sec. 1. Quality of Materials—

All materials are to be of good quality for the purpose for which they are intended to be used, and conform to trade and manufacturer's standards. Each material must be free from imperfections whereby its strength or durability may be impaired; and no material will be classed as good when its strength falls below ten (10) per cent. of the best of its kind. For the purpose of this Code the following materials shall be regarded as the minimum standard of measure in comparison with other materials of their respective kinds.

Sec. 2. Brick—

Brick herein referred to is the merchantable common brick, standard size, about 8 3-8 in. x 4 in. x 2 3-8 in.

All bricks shall be of a quality that will stand all ordinary or usual handling, hauling, dumping and delivery on the scaffolds or work, without making more than five (5) per cent. of bats.

Sec. 3. Stone—

Stone herein referred to is the best quality of building sandstone of commerce, quarried in the vicinity of Cleveland. Any other building stone equally as strong and durable may also be used.

Stone used for making concrete for foundations must be clean and free from dirt and dust, and must be broken to pass through a two (2) inch ring, or three-quarters (3-4) inch ring, if used in fireproofing or floor constructions.

Sec. 4. Sand—

May be either lake, pit or bank sand free from organic matter.

Sec. 5. Lime—

The fresh burned quick lime of commerce.

Sec. 6. Cement—

Any natural cement which is a product of calcination of natural rock, such as Akron, Louisville and other hydraulic cements; slag Portlands will be classed as a natural cement.

Sec. 7. Portland—

The standard Portland cement of commerce either domestic or foreign, which, when tested neat, after one day set in air, shall be capable of sustaining without rupture a tensile strain of at least two hundred (200) pounds per square inch, and after one day in air and six days in water, be capable of sustaining without rupture, a tensile strain of five hundred (500) pounds per square inch.

For fireproofing and floor constructions the highest grade of Portland shall be used. It shall be of uniform consistency and of such fineness that not more than ten (10) per cent. will be rejected by a sieve of twenty-five hundred (2,500) meshes per square inch, and, in addition to the above amounts, it shall be capable of sustaining without rupture a tensile strain of at least six hundred (600) pounds per square inch after one (1) day in the air and twenty-seven (27) days in water, and be subject to such other physical and chemical tests as may be required under Sec. 20.

Sec. 8. Mortars—

(**a**) LIME MORTAR.—A properly proportioned mixture of lime and sand.

(**b**) LIME AND CEMENT MORTAR.—A properly proportioned mixture of any natural cement and sand with an admixture of lime, cement and lime to be used in equal parts.

(**c**) CEMENT MORTAR.—A properly proportioned mixture of any natural cement and sand without the admixture of lime, or Portland cement and sand with an admixture of lime, Portland cement and lime to be used in equal parts.

(**d**) PORTLAND MORTAR.—A properly proportioned mixture of Portland cement and sand.

Sec. 9. Cement Concrete—

Composed of natural cement, sand and broken stone or coarse gravel or broken brick.

Sec. 10. Portland Concrete—

Composed of Portland cement, sand and broken stone or coarse gravel or broken brick.

Sec. 11. Proportions of Concrete—

The proportions of cement, sand, broken stone or macadam for concrete used for footings or foundations shall be as follows:

One (1) part of cement to not more than three (3) parts of sand and not more than five (5) parts of macadam or broken stone. The cement and the sand to be thoroughly mixed dry, so that the entire mass shall be of one uniform color and then mixed with the proper amount of water to make a plastic mortar. This mortar is then to be mixed with the macadam or broken stone, in such manner that the mortar and macadam or broken stone shall be a uniform mass, or dry sand and cement may be mixed with the wet inerts—mixed thoroughly and then water added, and mixed thoroughly again as before prescribed.

All concrete shall be used at once, and not allowed to become set or hard.

Sec. 12. Reinforced Concrete—

Portland concrete containing iron or steel bearing, stiffening or tension bars, rods, or cables, uniformly spaced and running in one direction only without any intermediate ties.

Sec. 13. Armored Concrete—

Portland concrete which is reinforced by iron or steel lattice. woven or cut work of uniform mesh, usually less but not exceeding one and one-half (1 1-2) times the thickness of the concrete.

Sec. 14. Terra Cotta—

Terra Cotta used for wall facings, either plain or ornamental, shall be well burned and sufficiently stiffened with webs to keep it out of wind.

Sec. 15. Timber or Wood—

Wood used for studs, joists, posts, beams or trusses and other bearing parts shall be of rough stock sizes and of no more inferior quality than No. 1 Norway or white pine bill stuff in buildings of the IV and V class and No. 1 Hemlock in buildings of the VI and VII classes.

Sec. 16. Wrought Iron—

All wrought iron shall be fibrous, tough and ductile.

Sec. 17. Cast Iron—

Cast iron shall be of good foundry mixture producing a clean, tough gray iron.

Sec. 18. Steel—

Structural steel shall be made either by the Bessemer or open hearth process.

Sec. 19. Iron and Steel Standards—

All structural wrought or cast iron, or steel, in quality, requirements of tests, workmanship, and in assemblage and interconnections of shapes shall be in accordance with the standard specifications of the Association of American Steel Manufacturers as given in the hand-books of the respective standard manufacturers; provided, that the Inspector may at any time require, but for buildings of the I, II, III and IV classes shall require the owner to engage recognized experts to supervise the mill, shop and field work, who shall file certified copies of their progress, reports for the approval of the Inspector, and no work shall be concealed or built upon until the Inspector has been furnished satisfactory proof that it is up to the accepted standards.

Sec. 20. Tests of Materials—

All structural material of whatever nature shall be subjected to tests to determine its character and quality by methods established by the authorities prescribed in Sec. 1, Title V; the tests shall be made under the supervision of the Inspector, or, he may direct the owner to file with him a certified copy of the results of tests such as he may direct shall be made. No new structural material shall be used in any structure until it has been tested and found to fulfill the minimum conditions and tests required by this Code for materials used for like purposes.

TITLE V.

CALCULATION OF STRESSES.

Sec. 1. Calculations of Construction—

The stresses used in materials hereafter to be used in construction shall be the calculated stresses due to their "dead load" plus the applied "live load." The allowable factors or units of safety or the dimensions of each piece or combination of materials required in a building or structure, if not given in this Code, shall be ascertained by computation according to the rules prescribed by the standard modern authorities on strength of materials, applied mechanics and engineering practice, provided, that the Inspector may require the Owner or Architect to submit a certified copy of such computation or strain sheets for examination and approval with the application for the Building Permit.

Sec. 2. Framing of Structures—

All framing of beams, girders, columns, trusses and other structural members shall be proportioned of sufficient strength to sustain the load equal to the end reaction of the member supported when supporting its maximum load. In all cases suitable provision shall be made to take up and properly distribute the stresses due to eccentric loading and also to prevent danger from horizontal or vertical deflection or the buckling or shear of the members. The eccentric load in a column, if provided for and properly taken up, may be regarded as uniformly distributed over its base.

Sec. 3. Tests of Frames—

When a test of any framed structure is required to ascertain its physical strength or its resistance to fire, frost or water. such tests shall be made with full finished sizes and similar exposure as their proposed use in a building requires, and when the condition for such tests are not established in this Code, the methods of the authorities as prescribed in the previous sections shall be followed.

Sec. 4. Factors of Safety—

In computing the working stresses in the framing of any building, unless the safe loads are prescribed in this Code, the following factors of safety shall be used:

For wrought iron or steel subject to compression or tension or transverse strains	(4)
For cast iron subject to tension or transverse strains	(10)
For cast iron subject to compression for plates and columns of ordinary or short length—according to the uniformity of the thickness of shell	(6) to (8)
For cast iron long columns—according to the uniformity of the thickness of shell	(8) to (10)
For timber subject to tension and transverse strain	(6)
For timber compressions in short columns or posts	(4)

For timber in long columns or posts........................ (5)

Natural or artificial stone or masonry, or concrete..........(10)

For framed structures composed of two (2) or more pieces of the same material, or a combination of two (2) or more pieces of different materials, such as frames of all kinds, brackets, cantilevers, trusses and arched floors, or trussed, reinforced or armored concrete floors combined with metal girders, beams or channels, under ordinary loading of buildings .... (4)

For framed structures as above, exposed to vibrations of machinery, or trucking, or shocks, or exposed to the action of the elements .... (5)

For floors of arch construction of brick, concrete or tile, or reinforced or armored concrete, or flat lintels or similar bearing parts between beams within themselves...... (7)

Sec. 5. Safe Loads on Soils—

Good, sound, natural earth shall not be loaded to more than the following in tons per square foot:

(1) Gravel and coarse sand well cemented, or rock or hard shale unexposed to the action of air, frost or water..... (8)
(2) Dry, hard clay or fine sand, compact and well cemented. (4)
(3) Moderately dry clay or clean, dry sand................ (2)
(4) Soft, wet sand .... (1)
(5) Quicksand or alluvial soils............................(½)
(6) The sand underlying the City of Cleveland above the lake level, commonly called "quicksand," when drained of its ground water without puddling or disturbing the foundation may be loaded .... (3)

When a doubt arises as to the safe sustaining power of the earth upon which a building is to be erected the Inspector may order borings to be made or direct the sustaining power of the soil to be tested by and at the expense of the Owner of the proposed building.

Sec. 6. Masonry—Safe Load—

BRICKWORK.—Allowable safe load in tons per square foot.

Laid in Mortar.	Lime.	Lime & Cement.	Cement.	Portland.
Common Kiln Run	6	8	10	13
Common Selected Hard	8	10	12	16
Hard Pressed Hydraulic or Vitrified Shale or Paving	10	12	14	18
Stone Rubble, irregular, loosely bonded	4	5	7	10
Stone Rubble, Coursed, well bonded	6	7	9	11
Stone Ashlar or block with full beds	9	12	15	20
Concrete: Cement 1, Sand 2, Stone 4			8	16
Concrete: Cement 1, Sand 2, Stone 5			6	14

For trussed concrete see Title X.

Sec. 7. Terra Cotta—

Terra cotta building blocks built in a wall facing may be loaded five (5) tons per square foot of effective Section, if *unfilled*, and eight (8) tons per square foot, measured on the beds, when *filled solid* with brick work or concrete.

Sec. 8. Hollow Brick and Tile—

When hard hollow bricks are used as the inner facing of a hard selected brick wall, the wall shall be estimated as if laid up in Kiln Run brick. Where hollow tile blocks are used for building partitions or as enclosing walls, the joints shall be well filled with mortar, and the effective bearing parts of the tiles shall not be loaded more than eighty (80) pounds to the square inch for hard fire clay tiles, nor more than sixty (60) pounds per square inch for hard ordinary clay tiles, nor more than forty (40) pounds per square inch for porous tiles. Portland building blocks used for outside walls and partitions shall not be loaded to more than one hundred and fifty (150) pounds per square inch of available or effective section.

Sec. 9. Floor and Roof Loads—

The minimum "live loads," uniformly distributed, in pounds per square foot to be imposed on floors in buildings are as follows:

BUILDINGS OF THE FIRST GRADE.

Div. (a) "Public Buildings" proper	100
Div. (b) "Detention Buildings."	
In cells or wards	60
In the public corridors, halls, stairways, offices, chapel, clinical, assembly or court rooms	80
Div. (c) "School Buildings."	
In class rooms	60
In the corridors, halls and stairways, laboratories and assembly rooms	80
Divs. (d and **e)** "Assembly Halls"—"Theaters."	
In auditoriums with fixed seats	80
In lobbies, passageways, corridors, stairways and in auditoriums with movable seats	100
In any hall used for dancing	150

BUILDINGS OF THE SECOND GRADE.—QUASI-PUBLIC BUILDINGS.

Div. (a) "Hotels."	
In private rooms and apartments	50
In halls, corridors, passageways, stairways, offices, lobbies, dining rooms, cafe and rooms for public use	80
Div. (b) "Office Buildings."	
In offices proper	60
In all hallways, stairs, lobbies and rooms for the common use of tenants	100

Div. (c) "Store Buildings."
For light merchandise:
Ground floor 125
Balance of building......................... 100
For heavy merchandise, at least 200

Divs. (d, e and f) "Warehouse"—"Factory"—"Workshop."

When the nature of their occupancy is general the loads will be the same as for division (c) except in cases where the building is used for the sale, storage or manufacture of very light or heavy merchandise or machinery, when it shall be proportioned to the loads they carry.

BUILDINGS OF THE THIRD GRADE—TENEMENTS.

Divs. (a and b) "Apartment House"—"Clubhouse."
Same as for buildings of the Second grade, division (a)—"Hotels."

Div. (c) "Tenement House."
In private rooms and apartments............... 50
In public halls, corridors and stairs........... 80

Buildings of the Fourth Grade—Dwellings................. 40
Buildings of the Fifth Grade—Stables...................... 80
Buildings of the Sixth Grade—Miscellaneous.

For floors of buildings of this grade and for floors not included or loaded more heavily than in the above classifications, and for floors subject to vibration from machinery, or those of drill rooms, riding-schools, etc., or those supporting moving loads, the Inspector shall determine the imposed loads by calculation.

Roofs of all buildings 40
Attic floors; when not used for storage.................... 20

When used for limited habitation or storage, never less than three-quarters (3-4) of the average load assigned to the floor next below.

Stairs and fire-escapes, generally, unless otherwise provided.. 80
Sidewalk vaults and coverings over sidewalk lifts and coal holes 200

Sec. 10. Flooring and Floor Arches—

All wooden flooring between two (2) joists or supports or any floor arch of brick, tile or concrete, or any reinforced or armored concrete or iron plate, or floor lintel, or other filling between two (2) supporting joists, beams or girders, shall be proportioned to carry not less than ten (10) per cent more live load than assumed for the joists, beams, or rafters, as provided in the next section.

Sec. 11. Loading of Floor Joists and Beams—

All beams, joists and rafters or girders carrying the flooring or floor arches directly between them as provided in the previous section, shall be proportioned to carry all of their "dead load," and the whole of the imposed, uniformly distributed "live load," provided, that no joist, beam or rafter shall exceed twenty (20) times its depth in length. If the roof is pitched at an angle not exceeding forty-five (45) degrees, and having determined the maximum distance between centers of supports for a rafter horizontally as a base, the length may be increased to meet the hypothenuse formed by the pitch line, without increasing the other dimensions.

Sec. 12. Girders—Trusses—

All girders and trusses shall be proportioned to carry the whole of the "dead load" and the following proportional parts of the floor loads transmitted by the joists, beams, purlines or rafters:

Beams and girders at the foot of each stair run	66%
In the roofs and attic floors of all buildings	100%
In the balance of the floors in buildings not exceeding three (3) stories in height	100%
In buildings over three (3) stories high, designed to carry a floor load of:	
150 pounds and upwards	97½%
100 to 150 pounds	95%
80 to 100 pounds	90%
60 to 80 pounds	85%
40 to 60 pounds	80%

provided, that no metal girder or truss in the external or any bearing wall in a building shall exceed thirty (30) feet between centers of supports.

Sec. 13. Loading on Columns, Posts, Piers and Walls—

Each column, pier, post and wall shall be proportioned to carry all of the "dead load," and the following proportional parts of the "live load" transmitted to them by the beams, girders or trusses:

In the attic of all buildings and in all buildings not exceeding three (3) stories in height and in all buildings of the V class, and the parts of buildings of the IV class of V class construction	100%
In buildings of all other classes designed to carry the following floor loads:	
150 pounds and upwards	95%
100 to 150 pounds	90%
80 to 100 pounds	85%
60 to 80 pounds	80%
40 to 60 pounds	75%

Sec. 14. Length of Columns, Posts and Piers—

No free standing or built in column, pier or post, shall exceed the following proportions of the least side or diameter to the height without being anchored, stayed or tied by beams or girders in at least two (2) directions at right angles to each other:

Brick piers	1 : 8
Block stone piers	1 :10
Wooden posts, short	1 :16
Wooden posts, long	1 :24
Cast iron columns, short	1 :20

Cast iron columns, long	1 :30
Wrought iron columns	1 :40
Steel columns	1 :44

Sec. 15. Sizes of Columns, Posts and Piers—

When used as principal supports for walls or floor construction, brick or stone piers shall not be less than 12 in. by 12 in.; cast iron columns not less than five (5) inches in their least diameter or width, and no shell shall be less than one-twelfth (1-12) the diameter or side, but never less than three-quarters (3-4) of an inch thick; wrought iron or steel built-up columns not less than six (6) inches in their least diameter or side, with not less than one-quarter (1-4) inch metal in any of their parts.

Sec. 16. Loads on Foundations—

The footings of all buildings shall be proportioned to sustain all the accumulated "dead load," and the following proportions of the "live loads" transmitted to them (See Sec. 13) as follows:
If through walls of columns built in or anchored to walls, for a floor load of:

100 pounds and upwards	75%
40 to 100 pounds	50%

If through free standing columns and piers, for a floor load of:

150 pounds and upwards	90%
100 to 150 pounds	85%
80 to 100 pounds	80%
60 to 80 pounds	75%
40 to 60 pounds	70%

which loads are to be distributed as uniformly as possible over areas according to the resistance of the underlying foundations. (See Sec. 5.)

Sec. 17. Wind Pressure—Calculation—

In all buildings or structures whose heights exceed one and one-half (1 1-2) times the average width of their base, irrespective of their location, allowance shall be made for wind pressure, which for all free standing structures shall not be figured at less than thirty (30) pounds per square foot of surface exposed from the grade to the top of same, including roof, in any direction, and for buildings in built-up districts the wind pressure shall not be figured at less than twenty-five (25) pounds per square foot at the tenth story and two and one-half (2 1-2) pounds less on each succeeding lower story, and two and one-half (2 1-2) pounds additional on each succeeding upper story, until a maximum of thirty-five (35) pounds is reached, which pressure shall be maintained to the top.

Every panel in a curtain wall shall be proportional to resist a wind pressure of thirty (30) pounds per square foot.

In no case shall the overturning moment due to wind pressure exceed seventy-five (75) per cent of the moment of stability of the structure.

In all structures exposed to wind, if the resisting moments of the "dead load" and connections are not sufficient to resist the moment of distortion due to wind pressure taken in any direction on any part of the structure, additional bracing shall be introduced sufficient to make up the difference in the moments.

Sec. 18. Wind Pressure—Precautions Against—

The precautions against the effect of wind pressure may take the form of any one or more or all of the following factors of resistance to the wind pressure.

First—By cross walls or buttresses.

Second—Dead weight of structure, especially in its lower parts.

Third—Diagonal braces.

Fourth—Rigidity of connections between vertical and horizontal members by gussets, knees or portals.

Fifth—By constructing iron or steel pillars in such manner as to pass through two (2) stories with joints breaking in alternate stories.

All buildings lacking in initial stability, and such other structures subjected to the lifting force of the wind, shall be anchored to their foundations, which shall be of sufficient weight to insure the stability of the structure.

TITLE VI.

EXCAVATIONS.

Sec. 1. Protection—

All excavations shall be so protected by the owner making or causing them to be made that adjoining soil shall not cave in by reason of its own weight, and shall be properly guarded and protected so as to prevent the same from becoming dangerous to life and limb.

Permanent excavations are to be protected by retaining walls, with guard rails or fences.

Regarding excavations along public property, see Title II, Part III.

Sec. 2. Damage by Excavation—

If the owner or possessor of any lot or land digs, or causes to be dug any cellar, pit, vault or excavation to a greater depth than nine (9) feet below the curb of the street or streets on which such lot or land abuts, or, if there be no curb, below the established grade of the street or streets on which such lot or land abuts, or, if there be no curb or established grade, below the surface of the adjoining lots, and by such excavation causes any damage to any wall, house or other building upon the lots adjoining thereto, such owner or possessor shall be liable, in a civil action, to the party injured to the full amount of the damage aforesaid. When there is a curb or established grade, the depth of such excavation, at any point thereof, shall be measured downward from the pitch line projected laterally over the lot or land from and between the corresponding points in the nearest curb or established grade opposite the ends of such pitch line.

Sec. 3. Depth of Excavation Allowable—

Such owner or possessor may dig, or cause to be dug, any such cellar, pit or excavation to the full depth of any foundation wall of any building upon the adjoining lot or lots or to the full depth of nine (9) feet below the established grade of the street or streets whereon such lot abuts, without reference to the depth of adjoining foundation walls, without incurring the liability prescribed in this Code, and may, on thirty (30) days' notice to adjoining owners, grade and improve the surface of any lot to correspond with the established grade of the street, streets or alley upon which such lot or land abuts without incurring liability.

Sec. 4. Excavations Below Footings—

Excavations in any building for the foundations of any machinery or for any cistern or pit of any kind, or for a tunnel or any sewer, water or other pipe line running parallel with a foundation wall or the sides of any supporting pier, shall not be dug below the bottom of the footings of such wall or pier when such excavations extends within one (1) foot of the angle of repose or natural slope of the foundation soil underneath such footings. The excavations for the foundation of any vibratory machinery, engine or dynamo shall not be made within one (1) foot of the footings of any wall or pier.

TITLE VII.

FOUNDATIONS.

Sec. 1. Foundation Walls—

All buildings within the fire limits, excepting sheds and open shelter sheds, and all frame buildings outside of fire limits higher than twenty-five (25) feet from sills to plates or eaves, and all brick and stone buildings within the city, shall have foundation walls.

Frame buildings not exceeding twenty-five (25) feet in height from sill to plate, may be set on posts or on isolated piers of brick or stone or concrete of sufficient size and strength to support the weight imposed.

Sec. 2. Foundation Soil—

Foundation walls are to be laid on solid natural earth, or a level surface of rock, or concrete. Where solid earth or rock is not obtainable, the foundation walls are to be supported on caissons filled with Portland concrete, or on piles or ranging timbers, and no building of the VI class over fifteen (15) feet high, and no building of the VII class over twenty-five (25) feet high shall be built upon a foundation resting upon filled ground, and all buildings erected over filled ground, if occupied in the basement for any purpose other than storage, shall be protected from ground water and affluvia.

Sec. 3. Pile Foundations—

Piles intended for a wall, pier or post to rest upon, shall not be less than six (6) inches in diameter at the smallest end and twelve (12) inches at the butt end, and shall be of oak or other hard wood and be spaced not exceeding thirty-six (36) inches or nearer than two (2) feet on centers, and they shall be driven to a solid bearing.

There shall not be less than two (2) rows of piles under all external, party or other walls less than seventy (70) feet high and three (3) rows under all walls over seventy (70) feet high, excepting under walls not exceeding twenty-five (25) feet in height a single row of piles may be used if all other conditions of stability are complied with.

No pile shall be weighted with a load exceeding twenty-five (25) tons.

The tops of all piles shall be cut off and the tops of all ranging and capping timbers, when used, shall be placed below the lowest ground water level to insure constant moisture in the timber.

Where required, Portland concrete shall be rammed down in the interstices between the heads of the piles to the depth and thickness of at least twelve (12) inches, and for one (1) foot in width outside of the piles.

Sec. 4. Depth of Foundation—

No building or structure lacking in initial stability against wind pressure when considered as being exposed on all sides shall have a depth of foundation of less than one-tenth (1-10) its height above the grade, unless a solid rock bottom is reached, but the foundation walls for all buildings as before mentioned, excepting those that are erected upon wharves or piers on a water front, are to be laid not less than four (4) feet below the surface of the ground exposed to frost. All foundations shall further be carried low enough to be safe from damage by the making of excavations below them for the purposes mentioned in Sec. 4, Title VI.

Sec. 5. Buildings with a Cellar—

All buildings, except those of the VI and VII classes, used for dwellings, having a cellar space below the grade used for purposes other than conduits or pipe or other lines, shall have their foundation walls carried to such depth so as to leave at least six (6) feet eight (8) inches in the clear to the floor below the bottom of the lowest girder, conduit, pipe line or any permanent horizontal structural obstruction hanging from the ceiling, and no excavation for such cellar floor shall extend within one (1) foot of the bottom of the footings of walls or piers or within eight (8) inches of the hub of the highest point of a sewer line. In dwellings the cellar floor excavation shall be no nearer than six (6) and four (4) inches respectively of the bottom of wall and sewer hubs.

Sec. 6. Buildings without a Cellar—

Every building hereafter erected without cellar or basement shall have the sod and all soil containing organic matter removed before laying joists, and shall have in the external walls below floor levels not less than four (4) ventilators, distributed on opposite sides of the building, and each not less than five (5) by twelve (12) inches, and no portion of the woodwork of the floor shall be less than six (6) inches clear of the ground.

Sec. 7. Material for Foundations—

Foundation walls of any building must be built of hard brick, stone, or other hard and incombustible material, and where there is a cellar or basement the walls below the surface of the ground shall be fully protected from dampness by an exterior covering of mortar such as used in laying up the wall with a wash coating of liquid Portland grout if necessary.

Sec. 8. Brick Foundation Walls—

If foundation walls are built of brick they shall be at least one-half (1-2) a brick thicker than the wall next above them down to twelve (12) feet and an additional one-half (1-2) brick for every ten (10) feet of increase below twelve (12) feet, provided, that in all cases they are also strong enough to act as a retaining wall against adjoining lateral pressures. This section shall not be construed to prevent the use of battered walls containing the proper amount of material to fulfill the conditions of stability, and if made of other material than brick the thickness shall be proportioned according to Sec. 4, Title VIII.

Sec. 9. Foundations for VII Class Buildings—

Hollow vitrified tile or cement blocks (see Sec. 7, Title X), may be used in the foundations of frame dwellings and veneered buildings. If of brick they shall be no less than one and one-half (1 1-2) brick thick, and not less than eighteen (18) inches if of irregular stone rubble or hollow tile. If cellar floor is more than six (6) feet below the grade level, walls are to be increased one-half (1-2) brick in thickness over the above given dimensions. If there is no cellar and a frame building is not more than one and one-half (1 1-2) stories high, the foundation wall may be one (1) brick thick, if of brick and not over two (2) feet above the grade.

Sec. 10. Footings, Kinds of—

The footing courses shall be of stone or concrete, or stepped up brickwork, or steel beams bedded in concrete, or a combination of any of the same; all to be of sufficient thickness, strength and breadth to safely bear the weight to be imposed thereon.

All foundations of buildings except those of the VII class less than three (3) stories high, shall have footings at least eight (8) inches wider than the wall and twelve (12) inches wider all around than the piers or columns.

Sec. 11. Concrete Footings—

If the footing courses be of concrete, the concrete shall not be less than twelve (12) inches thick per course. If of cement concrete the offsets shall not exceed one-third (1-3), and if of Portland the offsets shall not exceed three-fourths (3-4) of the thickness of each course, or, after the first course is laid the sides up to the bottom of other footings or base plates or foundation walls may be battered from the edges of the lower course with the above ratio.

Nothing in this section shall be so construed as to prevent the use of reinforced or armored concrete for footings, or in foundations if properly proportioned (See Title X) and otherwise complying with the conditions fixed for other materials in this Code.

Sec. 12. Stone Footings—

Stone footings shall consist of large slabs and shall be at least six (6) inches thick; the offsets shall not exceed seven-eighths (7-8) the thickness of each footing course, including last offset at foundation wall.

Sec. 13. Brick Footings—

If stepped brickwork is used the lower course shall be two (2) courses thick and be started with stretchers and a top course of headers; brick starting with a two (2) inch offset above this. If footings are laid in single courses they shall be heading courses with offsets not exceeding two (2) inches, and if laid in double courses, the upper being headers, the offset shall not exceed four (4) inches, provided, that when stone or brick are used exclusively for footings the foundation be equalized with a heavy layer of coarse mortar to insure uniform bearing under the entire footings, or stone and brick footings may be used in combination with concrete or steel and concrete forming the lower course or courses.

Sec. 14. Steel Rails or Beams in Concrete—

If steel or iron rails or beams are used as parts of foundations they must be coupled together and laid on a Portland concrete course (see Section 11), and be thoroughly imbedded in Portland concrete, the ingredients of which must be such that after proper ramming the interior of the mass will be free from cavities. The beams or rails must be entirely enveloped in concrete, and around the exposed external surfaces of such concrete foundations there must be a coating of a standard Portland mortar not less than one (1) inch thick. The iron and steel and the upper bed of the concrete footing course shall be given two (2) heavy coats of asphalt before the rails or beams are laid, or the beams may be painted with two (2) coats of pure Portland cement liquid grout, or two (2) coats of red lead and oil.

Sec. 15. Inverted Arches—

If, in case of a continuous foundation wall, isolated piers are to be built to support the superstructure, where the nature of the ground and the character of the building make it necessary, inverted arched walls shall be turned between the piers, at least twelve (12) inches thick and of the full width of the piers, and rest upon a continuous bed of concrete or timber of sufficient area of at least eighteen (18) inches thick; or two (2) footing courses of dimension stone may be used, the bottom course to be laid crosswise edge to edge, and the top course laid lengthwise, end to end, or on a footing of steel beams bedded in concrete; or one (1) course of concrete and one (1) course of stone. The stone shall not be less than ten (10) inches thick in each course, and the concrete shall not be less than eighteen (18) inches thick, and the area of the lower course shall be equal to the area of the base course that would be required under a continuous wall, and the outside pier shall be secured to the second pier with suitable iron rods and plates.

Sec. 16. Drainage and Frost—

Before the walls of buildings built on clayey or compact soils which hold water, are carried up above the foundation walls, the cellars shall be connected through drain tiles and catch-basins with the street sewers. Should there be no sewer in the streets, or if cellars are below the sewer or ground water level, then provisions shall be made to prevent water accumulating in the cellars to the injury of the foundations or the occupancy of the basement or cellar.

All foundation walls are to be properly protected against the effect of frost.

Sec. 17. Mortar in Foundations—

All mortar or concrete used in foundations below the water line shall be made of Portland cement, and all mortar below the grade line shall be cement mortar unless otherwise provided in Title IX.

Sec. 18. Irregular Rubble Foundations—

No irregular rubble or perch stone shall be used for the foundation wall of any building of a class better than the VI if two (2) or more stories in height, and no coursed rubble shall be used in any building of a class better than the IV if five (5) or more stories in height, or in any building of the I, II, or III classes.

Stone piers or columns shall not be used for the support of floors, or interior posts or columns of any building, or for the support of any outside wall where such piers are located in the basement and stand clear of any area or curb wall, except in buildings of the VI and VII classes not over three (3) stories high.

Sec. 19. Cellar Floors—

Every cellar or basement of a dwelling, tenement, or any other building when used for storage or other occupation, shall have a bed of cement concrete not less than four (4) inches thick, or Portland concrete not less than three (3) inches thick,

TABLE-A

I	II	III	IV	V	VI	VII	VIII	I
HEIGHT OF BUILDING IN STORIES	THICKNESS OF WALL IN BRICK			HEIGHT OF WALL IN FEET MEASURED DOWNWARD FROM TOP OF COPING	THICKNESS OF • WALL IN BRICK			HEIGHT OF BUILDING IN STORIES
	FLOOR LOAD NOT OVER 50 LBS. PER SQ. FT.				FLOOR LOAD NOT OVER 100 LBS. PER SQ. FT.			
PARAPET WALL	1	1	1	TO 2 ROOF LINE 2	1	1	1	PARAPET WALL
ATTIC OR AIR SPACE	1	1	1	MIN. 4 TO MAX. 8	1	1	1	ATTIC OR AIR SPACE
ONE	1	1	1	14 " 20	1	1	1½	ONE
TWO	1	1	1½	24 " 32	1	1½	1½	TWO
THREE	1	1½	1½	34 " 44	1½	1½	1½	THREE
FOUR	1½	1½	1½	44 " 50	1½	1½	2	FOUR
LENGTH OF WALL	UP TO 25 FT.	UP TO 50 FT.	UP TO 100 FT.	TO BASE OF WALL AT EACH STORY	UP TO 25 FT.	UP TO 50 FT.	UP TO 100 FT.	LENGTH OF WALL
DISTANCE BETWEEN CENTRES	NOT OVER 20 FT.	NOT OVER 25 FT.		EITHER FROM WALL TO WALL OR WALL TO GIRDERS	NOT OVER 20 FT.	NOT OVER 25 FT.		DISTANCE BETWEEN CENTRES
FOR THIS CLASS	BASEMENT WALLS TO BE ONE HALF (½) BRICK							FOR THIS

or asphaltum concrete not less than two (2) inches thick spread over its entire bottom, or shall be paved with hard bricks laid in cement mortar.

TITLE VIII.

WALLS, PIERS AND PARTITIONS—HEIGHTS AND THICKNESSES OF.

Sec. 1. Units of Measure—

For the purposes of this Code the unit of measure of all masonry walls, will be in terms of brick lengths, i. e., a wall one (1) brick thick shall be of no less thickness than a "stretcher" length of the standard brick prescribed under Title II, and the "stretcher" when laid up in a wall shall equal two (2) "headers" and one (1) mortar joint, but no mortar joint shall be less than one-quarter (1-4) of an inch or over three-quarters (3-4) of an inch in thickness.

Sec. 2. Increase of Thickness of Walls—

Walls shall be deemed to increase in increments of one-half (1-2) brick, i. e., by one (1) "header" and one (1) mortar joint, approximately four and one-half (4 1-2) inches in thickness, so that a one and one-half (1 1-2) brick wall measures one (1) "stretcher" and one (1) "header" and one (1) mortar joint, or three (3) "headers" and two (2) mortar joints, approximately thirteen (13) inches.

Sec. 3. Thickness of Brick Walls—

The permissible thickness of any brick wall for any height will be found in the tables under this Title compiled in terms of standard "stretchers" and "headers," with allowance of the necessary mortar joints, not less than one-quarter (1-4) of an inch thick.

Sec. 4. Thickness of Other Walls—

In proportioning walls other than brick and not otherwise designated, the relative thickness of the walls shall be, taking brick as the unit, not less than the following: For irregular Rubble, 1.40; Coursed Rubble or six (6) inch Ashlar backed with brick, 1.20; Brick or eight (8) inch Ashlar backed with brick, 1.00; Block Stone Ashlar with full beds and vertical joints, 0.75 times the unit of thickness, but in no case shall a block stone wall be smaller than the wall immediately above it.

Sec. 5. Explanation of Table A—

Table A gives the thicknesses, heights and lengths of external and internal bearing and non-bearing walls for buildings of the VI class not over four (4) stories and a basement high, with the first story not exceeding twelve (12) feet in height. No party wall of this class of building shall be less than one and one-half (1 1-2) brick thick.

Sec. 6. Explanation of Table B—

Table B gives the thicknesses and heights of all external and internal bearing, fire and party walls for buildings from one (1) to sixteen (16) stories high.

Column I gives the height of buildings in stories.

Columns II and V give the thicknesses in brick for walls not over sixty (60) feet in length.

Columns III and VI give the thicknesses in brick for walls of unlimited length.

Column IV gives the maximum and minimum total heights of walls in feet corresponding to their respective thicknesses and story heights.

Sec. 7. Heights of Stories, Table B—

The heights of stories for the thicknesses of walls given in Table B must not exceed twelve (12) feet for the basement, eighteen (18) feet for the first story, fifteen (15) feet for the second story and fourteen (14) feet for any of the upper stories except the topmost, which may be sixteen (16) feet. A Mezzanine or gallery story shall not be less than seven (7) feet in the clear, provided that the area of such Mezzanine or gallery floor does not exceed one-third (1-3) the area of the floor of the story in which it is introduced.

TABLE-B

I	II	III	IV	V	VI	I
eight of uilding in tories	Thickness of Wall in Brick Floor Load not over 60 Lbs. Per Sq. Ft.		Height of Wall in Feet Measured Downward From ● Top of Coping ● to	Thickness of Wall in Brick Floor Load 60 Lbs. and over Per Sq. Ft.		Height of Building in Stories
apet Wall	1½	1½	3 Roof Line 3	1½	1½	Parapet Wall
ttic or r Space	1½	1½	Min. 6 to Max. 10	1½	1½	Attic or Air Space
One	1½	1½	18 ” 24	1½	1½	One
Two	1½	1½	30 ” 38	1½	2	Two
Three	1½	2	42 ” 52	2	2	Three
Four	2	2	54 ” 66	2	2	Four
Five	2	2	66 ” 80	2	2½	Five
Six	2	2	78 ” 94	2½	2½	Six
Seven	2	2½	90 ” 108	2½	3	Seven
Eight	2½	2½	102 ” 122	2½	3	Eight
Nine	2½	2½	114 ” 136	3	3	Nine
Ten	2½	3	126 ” 150	3	3½	Ten
Eleven	3	3	138 ” 164	3½	3½	Eleven
Twelve	3	3½	150 ” 178	3½	4	Twelve
Thirteen	3½	3½	162 ” 192	4	4	Thirteen
Fourteen	3½	4	174 ” 200	4	4½	Fourteen
Fifteen	4	4	186 ” 200	4½	4½	Fifteen
Sixteen	4	4½	198 200	4½	5	Sixteen
Length of Walls	Up to 60 Ft.	Above 60 Ft. Unlim.	To Base of Wall Story per Story	Up to 60 Ft.	Above 60 Ft. Unlim.	Length of Walls
Basement Walls	Shall be one-half (½) brick thicker than wall next above					Basement Walls

TABLE C

For Heights of Buildings Corresponding to	Load in Pounds—Per Square Foot of Floor				
	Load Not Over 60 Lbs. on Walls of		Over 60 Lbs.—Up to 200 Lbs. on Walls of		
Cols. I and IV. Table B.	Cols. II and III Table B		Cols. V and VI Table B		
Not Exceeding	I	II	III	IV	V
Three Stories High	60	50	200	175	150
Six Stories High	60	50	175	150	125
Nine Stories High	60	50	150	125	100
Twelve Stories High	60	50	125	100	75
Sixteen Stories High	60	50	100	75	60
First Floor of Any Building	125	100	200	175	150

Sec. 8. Explanation of Table C—

Table C gives the permissible live floor loads, ranging from sixty (60) to two hundred (200) pounds per square foot on the walls of Table B for buildings arranged in three story intervals.

Column I gives the maximum load per square foot to be placed on any floor for any wall in Columns II and III of Table B.

Column II shows that walls of Columns II and III, Table B, may be reduced one-half (1-2) brick in thickness when used as division walls not loaded over fifty (50) pounds per square foot, or when the wall built along a party line is "dead" or blank with the full load of sixty (60) pounds per square foot on all floors, or when the external walls or the walls facing inner courts, light shafts and wells are non-bearing provided that neither of such walls shall be less than one and one-half (1 1-2) brick in thickness, except fire walls for the topmost story if not over twelve (12) feet in height in buildings not exceeding four (4) stories or sixty-five (65) feet in height.

Column III gives the maximum floor loads over sixty (60) pounds per square foot to which all the floors of a building of a given number of stories high may be loaded without changing the thicknesses and heights of the walls as given in Columns V and VI, Table B, i. e., for thicknesses and heights of walls for buildings from thirteen (13) to sixteen (16) stories high, as given in Columns V and VI, Table B, no floor above the first shall be loaded from sixty (60) pounds upward so as to bring the average of each succeeding three floors over one hundred (100) pounds per square foot.

Column IV is for division walls, and Column V for "dead" walls along party lines when the floors are not loaded heavier than the amounts given for each three (3) story interval of height opposite them; then the walls in Columns V and VI may be reduced one-half (1-2) a brick in thickness, and all external non-bearing and internal fire division walls may be similarly reduced, provided that neither of such walls shall be less than one and one-half (1 1-2) brick thick in any story.

Sec. 9. Walls of Pitched, Gable or Mansard Roofed Buildings—

Tables A, B and C are for flat roofed buildings only; if a pitched, gable or mansard roofed building is desired, the base or springing line of such roof shall not be above the attic floor line given in the tables, and above this, after allowance for the pitch line is made, the area of the walls must not exceed the maximum area of wall allowed from coping line down to attic floor. In no case shall the height of any such building, measured as per Title III, exceed the maximum height of walls of its class.

Sec. 10. Walls of Attic Story—

If an attic space is used for business, storage or permanent habitation, it shall be counted as the uppermost story of that building, and when the height and number of stories of a building is limited there shall be one (1) less story below the attic floor line than for flat roofed buildings of the same grade. The thicknesses and heights of walls below such attic floors shall be estimated as beginning at the first story below the attic floor of the Tables, provided that in no case shall there be more than on (1) story of occupied attic space between the attic floor and the apex or deck of any roof, and further, that no ridge of a pitched or gable roof or deck of a mansard roof shall be more than twenty (20) feet high above the base or springing line of such roof, unless constructed entirely of fireproof material.

Sec. 11. Thickness of Walls Increased—

All walls given in Tables A, B and C shall be increased in thickness or be re-inforced with equivalent pilasters or buttresses when the following conditions obtain:

(**a**) When walls are more than twenty-five (25) feet apart. one-half (1-2) brick shall be added for every succeeding interval of twelve and one-half (12 1-2) feet or part thereof of increase of distance between them without intermediate division walls or rows of column and girder supports.

(**b**) When any horizontal section of wall shows more than twenty-five (25) per cent reduction of area on account of flues. openings and recesses, one-half (1-2) brick shall be added for every succeeding interval of ten (10) per cent or part thereof of reduction, provided that in walls of uniform thicknesses such reduction does not exceed fifty-five (55) per cent of the whole, or, in masonry pier construction, not more than seventy (70) per cent for each bay.

(**c**) When the floors of a building of an established height are to be loaded heavier than the maximum given in the tables, one-half (1-2) brick shall be added for every succeeding interval of three (3) stories or less in height to all walls below the topmost three (3), for every succeeding interval of twenty-five (25) pounds or less of increase to floor loading, i. e., if it is desired to obtain the thickness of wall for a nine (9) story building, as per Tables B and C, capable of sustaining two hundred (200) pounds per square foot per floor, the walls of the upper three (3) stories would remain of the same thickness as given in Table B: the next three (3) stories below would increase one-half (1-2) brick, and the lower three (3) stories would increase one (1) brick in addition to the thickness given in the table.

(**d**) When the height of any story is increased, one-half (1-2) brick shall be added to that story and all walls below for every succeeding interval of fourteen (14) feet or part thereof of increase to the height of any story up to seven (7) feet, or, when the whole of the fourteen (14) feet distributed equally in not less than two (2) stories. provided, that no story shall have its height increased beyond sixteen (16) times the thickness of its enclosing walls at the base without a still further increase of thickness, nor shall the total height of walls exceed the maximum limits established for any class or grade of buildings.

(e) When brick of smaller "stretcher" or "header" lengths r both, than the standard is used the thickness shall be increased y one-half (1-2) brick of the size used.

ec. 12. Partition Walls—

All non-bearing partition walls may be one (1) brick in hickness for buildings classed under Table A if continuous in eight from foundations upward or if supported on beams in any uilding at every story not exceeding twenty (20) feet in height etween the ceiling lines.

In all buildings with walls classed under Table B the followng thicknesses are permissible for non-bearing partition walls if nchored on both sides, or for enclosing walls of interior light r vent shafts when not over ten (10) feet in length.

uildings in Stories ounting from Top Down	Total Height of Walls up to	Height in Story, No story over	Thickness in Brick, Not less than	Height of Section	Number of Section counting down
From Not over One . . . . .Four	50 ft.	14 ft.	1	50 ft.	First.
Next Four. Four . . . .Eight	100 ft.	16 ft.	1½	50 ft.	Second.
Next Four. Eight. . .Twelve	150 ft.	17 ft.	2	50 ft.	Third.
Next Four. Twelve . .Sixteen	200 ft.	18 ft.	2½	50 ft.	Fourth.

If non-bearing partition walls not exceeding twenty-five (25) feet in length and spaced at intervals not exceeding twenty (20) feet apart surround open areas, stairs and wells, and are anchored to the floor construction on one (1) side only, the upper three (3) stories up to thirty-six (36) feet in height shall be not less than one (1) brick thick, and the wall below shall be divided into sections at every three (3) story interval and the thickness of the wall shall be increased one-half (1-2) brick for every such interval or part thereof down to the ground floor.

Sec. 13. Length of—

If any partition wall is of greater length than fifty (50) feet between walls or other end supports, or contains more than thirty-five (35) per cent of openings in the horizontal section on any floor, the thickness shall be increased as per Section 11 under this Title.

All brick partition walls must spring from foundations or be carried on iron or steel columns and girders.

Sec. 14. Walls Supporting Trusses and Girders—

All walls supporting trusses or girders shall have the thicknesses given in the following tables D and E, subject to conditions of Sections 11, 15 and 16 under this Title.

Table D gives thicknesses, heights and lengths for walls of uniform section throughout from top to bottom.

TABLE D.

Height of Wall in Feet		**Thickness in brick for distance apart in feet**			
From	**Not Over**	**Less than 50 feet**	**More than 50 feet**	**Less than 50 feet**	**More than 50 feet**
—	25	2	2½	2½	3
25	45	2½	3	3	3½
45	60	3	3½	3½	4
60	75	3½	4	4	4½
75	90	4	4½	4½	5
Length of Wall		Not over 100 feet.		Over 100 feet.	

Table E gives thicknesses, heights and lengths for walls of variable section or walls stepped off in offsets.

Sec. 15. Walls over Assembly Rooms—

In case there should be one (1) or more stories built above the room devoted to the uses of an assembly hall or theater, such stories being carried on trusses or girders, the thickness of walls shall be increased by one-half (1-2) brick for each two (2) stories or part thereof above every such room.

Sec. 16. Buttresses, Pilasters and Piers—

Tables B, C, D and E shall be used for all buildings of

TABLE-E

Height of Walls in Sections Counting Down	Thickness in Brick for Distance apart in Feet				Height of each Section for Walls from 25 to 90 Feet high				
	25 and less	25 to 37½	37½ to 50	50 to 75 and over	25	45	60	75	90
1st. Section or Top	2	2½	3	3½	25	20	15	15	15
2nd. "	2½	3	3½	4		25	20	15	15
3rd. "	3	3½	4	4½			25	20	15
4th. "	3½	4	4½	5				25	20
5th. "	4	4½	5	5½					25

N.B.—Add one-half (½) brick to thickness for all walls over 100 feet long the First and Second grade and for such other grades when conditions of heights and spacing of walls demand. The walls of such buildings may be reinforced by buttresses or pilasters, or their equivalent in piers and curtain walls may be used, provided, that all conditions of strength and stability and other conditions as established in this Code are met and complied with.

Sec. 17. Curtain and Apron Walls—

If solid masonry piers or buttresses placed not over sixteen (16) feet, or built in columns placed not over twenty (20) feet apart, on centers are employed in the reinforcement of or are substituted for the walls of Tables A, B and C, the curtain and apron walls connecting them may be of any of the following thicknesses:

(**a**) No curtain or apron wall shall be less than one and one-half (1 1-2) brick thick except for buildings of the Third and Fourth grades when spacing of piers is not over twelve (12) feet and built in columns fourteen (14) feet on centers, when the thickness of such wall may be reduced to one (1) brick, provided, such one (1) brick walls do not exceed the maximum height of four (4) stories as given in Table A without being supported by intermediate beams or girders, and that no building having such walls in the upper three (3) stories be more than seventy-five (75) feet high.

Buildings of these grades higher than seventy-five (75) feet but less than one hundred (100) feet, may have the upper two (2) stories one (1) brick thick and all below one and one-half (1 1-2) brick thick, provided further, that the intermediate supporting beams or girders are not more than two (2) stories apart.

Apron walls in buildings of the IV, V and VI classes may be one (1) brick thick, provided, that they are supported in every story on independent iron or steel beams and have no brick or other bearing support intermediate between the piers.

(**b**) Curtain walls unsupported on intermediate beams, with openings and aprons, for buildings requiring walls of Tables B and C, shall be one and one-half (1 1-2) brick thick for the uppermost section of fifty (50) feet, and an additional one-half (1-2) brick shall be added, going downward, for each additional fifty (50) feet or part thereof of increase in height.

(**c**) For unsupported "dead" or blank curtain walls the uppermost section of seventy-five (75) feet shall be no less than one and one-half (1 1-2) brick thick, and an additional one-half (1-2) brick shall be added, going downward, for each seventy-five (75) feet or part thereof of increase in height.

(**d**) Curtain walls supported on intermediate beams every two (2) stories in height may be one and one-half (1 1-2) brick thick for the uppermost section of one hundred (100) feet, and two (2) brick thick for the balance of the height down to the grade.

(**e**) Curtain walls supported at every floor level may be one and one-half (1 1-2) brick thick for the uppermost one hundred and fifty (150) feet and two (2) brick thick for the balance of the height down to the grade.

(f) For curtain walls of buildings requiring walls as per Table D and E, with piers spaced as for walls of Tables A, B and C, as previously given under this Title, and unsupported for their entire height, with or without openings, the uppermost twenty-five (25) feet shall be one and one-half (1 1-2) brick thick, and one-half (1-2) brick shall be added, going downward, for every twenty-five (25) feet or part thereof of increase in height.

If the wall has intermediate supporting beams at every twenty-five (25) foot interval of height the thickness may be the same as given for division (c) of this section.

(g) The foundations of all curtain walls shall comply with Title VII or any subsequent title relating thereto.

(h) Provided, that the thickness of all curtain and apron walls under this Section is exclusive of any unbonded veneer as prescribed in any Title under this Code.

Sec. 18. Walls with Built In Columns—

In all cases, as prescribed in Section 17, when built in columns are used in the reinforcement the walls surrounding them shall be thoroughly bonded or anchored to the connecting curtain and apron walls, and in cases as per divisions (a), (b), (c), (d) and (e) of that section there shall be at least one (1) brick thickness in the outside face and not less than one-half (1-2) brick thickness on the inside face of the column, and for cases as per division (f) of that section and for all cases where the columns of an outer wall extend below the grade there shall be at least one (1) brick of thickness on all faces of the columns unless otherwise provided for under Title XII.

Sec. 19. Ratio of Thickness to Height—

The provisions of Sec. 11 (d) limiting the ratio of the thickness of a wall to its story height to 1:16, shall apply to all bearing and enclosing walls and all bearing partitions, whether built of brick, masonry, concrete, hollow tile, or building blocks of any kind when their use is not in conflict with any of the provisions of this Code, provided that when the thickness of any such wall or partition is required to be increased, the increment shall never be less than four (4) inches.

TITLE IX.

WALLS, PIERS AND PARTITIONS—CONSTRUCTION OF.

Sec. 1. Materials of Walls—

All buildings shall be enclosed on all sides with walls. The walls of all buildings, other than those of the VII class, shall be constructed of stone, brick, Portland cement concrete, iron, steel or other hard incombustible material.

Sec. 2. Brick and Mortar in Walls—

Unless otherwise provided in this Code, the brick and mortar used in walls shall be as follows: Below the grade all hard and cement mortar; upper three (3) stories of any building, kiln run and cement and lime mortar but no salmon brick in any weather facing; next nine (9) stories below, all hard and cement mortar.

All buildings over eleven (11) stories high shall have their foundations and all stories below the uppermost twelve (12) built of vitrified shale or all hard or pressed brick laid in Cement Mortar. (Portland and lime only.) See Section 8 (c), Title IV.

Sec. 3. Laying Up—

The walls and piers of all buildings shall be properly and solidly bonded together with close joints filled with mortar. Walls of two (2) brick and over in thickness shall have brick push placed and grouted. They shall be built to a line and carried up plumb and straight. The walls of each story shall be built up the full thickness to the top of the beams above. All brick laid in non-freezing weather shall be well wet before being laid.

Sec. 4. Corner Bond and Anchors—

The front, return, rear, side, division, partition and party walls shall be properly bonded together or anchored to each other every six (6) feet in height, and to the floor joists or beams at every eight (8) foot interval, and to all girders and trusses, by suitable wrought iron anchors.

Sec. 5. Bracing of Walls—

The walls and skeleton frame work of every building during the erection or alteration thereof shall be strongly braced from the beams of every story, and when required, shall also be braced from the outside until the building is enclosed, and otherwise be protected against the effects of the weather during all building operations. In no case shall any wall or walls of any building be carried up more than two (2) stories in advance of any other wall.

Sec. 6. Piers—

All isolated piers shall be built of stone or good, hard well burned brick laid in cement mortar. Through bond stone of not less than three (3) brick courses in thickness shall be placed at a height not over four (4) times the least dimension of the pier. Cap stones and iron bearing plates shall be set under all columns and girders or trusses bearing on piers proportioned as provided in Title V.

Every pier built of brick containing less than nine (9) superficial feet at the base, supporting any truss, beam or girder, arch, columns or lintel spanning an opening over ten (10) feet, or supporting a wall, shall be capped with an iron plate of sufficient strength and the full size of the pier. No stone pier caps shall be used in buildings of the IV or V class when the height of same exceeds four (4) stories, and shall never be used in buildings of the I, II and III classes.

Sec. 7. Ashlar—

Stone used for the facing of any building shall be of such thickness as to make the walls independent of the ashlar, conform as to thickness with the requirements of this Code, unless the ashlar be at least eight (8) inches thick and one-third (1-3) of the surface is bonded at least with four (4) inches additional thickness in regular brick coursed heights into the backing and then it may be counted as part of the thickness of the wall. If ashlar is six (6) inches thick and bonded four (4) inches as for eight (8) inch ashlar stone, the outer shell counts only as the equivalent of one-half (1-2) brick in thickness. Four (4) inch ashlar will be treated as a veneer. No ashlar faced wall shall be less than one and one-half (1 1-2) brick thick.

Sec. 8. Rubble Work—Irregular—

Rubble or Perch work built up with broken "Breakwater" stone and spawls without regard to natural beds shall be leveled up at every four (4) feet of height and have through headers or bond stones not over four (4) feet on centers uniformly staggered over the face.

Sec. 9. Rubble Work—Coursed—

Rubble work composed of flat stone not less than six (6) inches thick laid in their natural beds in approximately level courses, without more than ten (10) per cent of spawls shall be brought to a level at every three (3) feet of height and have alternating bonding headers not over three (3) feet on centers.

If all the stone of walls of this class are built in level courses —all beds and joints roughly squared with more than seventy-five (75) per cent of through stone and laid without spawls, such a wall may be made in thickness as required for brickwork.

Sec. 10. Stone Walls and Piers—

All stone walls and piers shall be laid to a line on both sides. When walls are over two (2) feet thick the bond stones may be either three-quarter or full bond except in cases where through stones are required. They shall be laid in mortar as required for brick walls when similarly used. See Section 2. The pointing of all weather facings shall be with Portland cement mortar.

Sec. 11. Pressed Brick and Terra Cotta—

Unless a pressed brick facing of a wall is laid up and bonded course per course with the backing it shall not be counted as part of the thickness of a wall and no unbonded pressed brick wall shall be less than one and one-half (1 1-2) brick thick; nor shall a terra cotta facing of a wall be counted as part of the thickness unless it shall bond in with the backing in a regular number of courses in height alternating at least four (4) and eight (8) inches in the beds, in proportions of two (2) to one (1); provided no course exceeds three (3) times its bed in height and has all of the hollows filled in solid with brick or concrete for the full width of bearings.

Sec. 12. Veneered Walls—

Unless of pier construction, no brick or other masonry wall laid with a veneer of ashlar, pressed brick, terra cotta, tile or metal, shall be used on any building over sixty (60) feet high unless there are continuous belts with one (1) brick depth of bearing on backing, and not less than two (2) brick courses high at every thirty (30) foot interval.

The backing shall be of the full thickness of walls required by this Code, and the facing shall be blind bonded or tied or anchored to the backing or frame work in alternating intervals not exceeding two (2) feet on centers. All veneering shall be laid with full beds and joints and no buttered joints in pressed brick shall be permitted in the facing of walls of any building over twenty-five (25) feet high.

Sec. 13. Cast Iron and Metal Fronts—

When used in front of a skeleton frame the backing shall not be less than the minimum as prescribed in Titles XI and XII with all air spaces filled in solid with concrete.

Sec. 14. Corbelling—

Corbelling for ledges if not less than five (5) brick courses high and not more than one-half (1-2) brick projection to support beams or joists, floor arches, floor plates of iron, or concrete in fireproof construction, shall permitted only if they are made of sufficient strength to transmit the imposed stresses, and in the case of concentrated loads the bond stone or plate shall extend at least eight (8) inches into the brickwork. Walls of one (1) brick thickness shall not be corbelled out more than two (2) inches.

Wherever standard hangers are used for supporting joists the corbelling may be omitted. See Title XIII.

Sec. 15. Party Walls—

The thickness of a party wall of brick shall be the same as for external walls given in the tables under Title VIII, but never less than one and one-half (1 1-2) brick except in buildings of the VII class, and shall be so constructed that the thickness of the wall shall not be less than one-half (1-2) brick between the ends of joists after allowing for the full bearing of joists and timbers entering from opposite sides; in buildings of the VII class joists resting upon a party wall one (1) brick thick there shall not be less than one-half (1-2) a brick opposite and one (1) brick between the ends of joists entering from opposite sides of the wall.

Sec. 16. Existing Party Walls—

Walls heretofore built or used as party walls, whose thickness at the time of their erection was in accordance with the requirements of the then existing laws, but which are not in accordance with the requirements of this Code, may be used, if in good condition, for the ordinary use of party walls, providing the height of same is not increased, and provided further that the conditions of stability required by this Code are complied with.

Sec. 17. Lining Existing Walls—

In case it is desired to increase the height of existing party or any other walls, which are less in thickness than required under this Code, the same shall be done by a lining of brickwork to form a combined thickness with the old wall of not less than one-half (1-2) brick more than the thickness required for a new wall corresponding with the total height of the wall when so increased in height. The said lining shall be supported on proper foundations. No lining shall be less than one (1) brick in thickness and all linings shall be laid up in cement mortar and thoroughly anchored to the old brick walls with suitable wrought iron anchors placed two (2) feet apart and properly fastened or driven into the walls in rows alternating vertically and horizontally with each other, the old walls being first cleaned of plaster or other coatings where any lining is to be built against the same.

No wall shall be lined less than one and one-half (1 1-2) brick in basement.

All linings in basement must project one-half (1-2) brick beyond the lining in the first floor; or skeleton steel or iron construction may be used with posts and girders, supporting each story and carried up to the full height of the proposed building, resting on sufficient foundations as provided under Title VII.

Sec. 18. Timber in Walls Prohibited—

No timber, except inside lintels as herein provided, brace blocks, or wood brick not more than eight (8) inches in length, shall be used in any wall of any building where stone or iron is commonly used.

Sec. 19. Arches and Lintels—

Openings for doors and windows in all buildings shall have good and sufficient arches of stone, brick or terra cotta, well built and keyed with good and sufficient abutments, or lintels of stone, iron or steel, of sufficient strength, which will have a bearing at each end of not less than six (6) inches on the wall. On the inside of all openings in which the outer lintels are less than the thickness of the wall to be supported there shall be timber lintels, which shall rest at each end, and shall have a suitable arch turned over the timber lintel. Or the inside lintel may be of cast iron, or wrought iron or steel, in which stone blocks or cast iron plates shall not be required at the ends where the lintel rests on the walls, provided the opening is not more than six (6) feet in width.

Wood lintels in buildings of the IV and V classes must be solid for the full thickness of head. No wood lintels will be allowed in the external or division walls of buildings of the I, II and III classes, or in the partition walls of buildings of the I class.

Sec. 20. Hollow Walls—

In all walls that are built hollow the same quantity of stone, brick or concrete shall be used in their construction as if they were built solid, and no hollow wall shall be built unless the parts of the same are connected by proper ties, either of brick, stone or metal, placed not over twenty-four (24) inches apart. No hollow wall shall be used unless the bearing part is at least one (1) brick thick and the bearing portion is increased in thickness as prescribed in Title VIII.

Sec. 21. Hollow Brick and Tile Lining of Walls—

The inner facing of one-half (1-2) brick of walls, except under concentrated loads or girders, may be built of hard burned hollow brick if of the same dimensions of ordinary brick and properly bonded into the walls, course by course.

Where hollow tile or porous terra cotta blocks are used as lining or furring for walls they shall not be included in the measurement of the thickness of such walls, except in curtain walls not over one (1) story or fifteen (15) feet high and where the lining course is of the same dimension of ordinary brick, or they may be used in any other position; provided that the applied stresses do not exceed the maximum of safety established in Title V.

Sec. 22. Hollow Tile Partitions—

Six (6), four (4) and three (3) inch hollow tile or hard-burnt clay, or porous terra cotta or Portland cement tile non-bearing partitions may be built not exceeding in their height a measurement of sixteen (16), twelve (12) and ten (10) feet respectively, and in length not exceeding seventy-five (75) feet, unless strengthened by proper cross walls, piers or buttresses, or built in iron or steel frame work.

Sec. 23. Parapet Walls—

All exterior and division and party walls over fifteen (15) feet high shall have parapet or coping walls carried above the roof as per Tables A or B, and shall be coped with incombustible material. The front and rear walls, if facing on streets, alley or open space and finished off with cornices and gutters at the roof line may have the parapet wall omitted. Then the total height of the building shall be measured as extending to the top of the highest cornice line. Open balustrades shall not be placed above the cornice line of any building unless they are built of incombustible material directly over the wall below, nor shall the top rail of such balustrades be over eight (8) feet above the roof line.

Sec. 24. Recesses in Walls—

No recess or chase for water, soil, steam or other pipes shall be made in any exterior or in any other bearing wall to more than one-third (1-3) of its effective thickness, and the recesses around said pipe or pipes shall be filled up with solid masonry, or plastic incombustible material, after the pipes are in place, for the space of one (1) foot at the top and bottom of each story. No recesses shall be made in any exterior or other bearing wall less than one and one-half (1 1-2) brick thick, and no continuous vertical recess other than flues in stacks shall be nearer than seven (7) feet to any other recess. No channeling shall be done in walls which are less than one and one-half (1 1-2) brick thick, except for small gas pipes and wire conduits. Recesses for stairways or elevators may be left in the foundation or cellar walls of all buildings, but in no case shall the walls be of less thickness than the walls of the fourth story, unless reinforced by additional piers with iron or steel girders or iron and steel columns and girders, securely anchored to walls on each side.

Sec. 25. Cutting of Openings—

In new buildings all openings larger than four (4) inches square, or chases deeper than four (4) inches, shall be located on the plans and left in walls as they are carried up. No horizontal chases or recesses shall be cut in any wall.

Sec. 26. Furred Walls or Chimneys—

In all walls or chimneys furred with wood, two (2) courses of the brickwork between the ends of the wood beams shall project the thickness of the furring beyond the inner face of the wall for at least two (2) courses in height.

Sec. 27. Sills, Lintels, Etc.—

All cut stone, terra cotta, artificial stone, or other incombustible trim of walls, such as sills, lintels, cornice molds, belts, other than the veneering, shall be properly anchored or tied to the backing, and no such trim shall have less than one-half (1-2) brick of full bed bearing on the walls, and all such trim shall have at least sixty-five (65) per cent of their mass laid or bearing on the wall.

Sec. 28. Retaining Walls—

All retaining walls along any public or private alley, court or courtway upon which driving or teaming is done shall be of no less thickness than as prescribed for vaults in public property in Part III of this Code.

Nothing in this section shall be so construed as to prohibit the erection upon private property arched retaining walls sprung between buttresses and piers, provided that no such arch shall have a rise of less than one-tenth (1-10) the span nor be less than one (1) brick thick, if of brick, six (6) inches thick if of re-enforced concrete, and five (5) inches thick if of armored concrete, provided, further, that such thicknesses meet all prescribed conditions of stability.

TITLE X.

CONCRETE CONSTRUCTION.

Sec. 1. Proportions and Mixing—

When the proportions of concrete are not definitely given they shall not exceed those prescribed under Title IV, and all mixing is to be done by machine if the concrete is to be used for floors or for fireproofing purposes, or when used for walls and foundations when the required total exceeds seventy-five (75) cubic yards.

Sec. 2. Permits and Samples—

When applying for a permit to build any concrete construction, the applicant shall submit samples of all material, and the formula of the concrete mixture to be used to the Inspector of Buildings.

Complete drawings, specifications and details of any re-enforced concrete construction, showing the size and position af all re-enforcing members, shall be filed with the Inspector before a permit to erect the same shall be issued.

Sec. 3. Cement, Sand and Inerts—

All concrete walls above the basement floor level and all concrete floors and fireproofing within a building shall be made with standard brands of Portland, sand, and either of the following inerts: Silica gravel, broken stone, slag, brick, terra cotta, or boiler cinders thoroughly screened, but no particle shall exceed the two (2) or three-quarter (3-4) inch size prescribed in Title IV.

Sec. 4. Materials Prohibited—

The following inerts shall be excluded in floor construction and fire proofing except for concrete ballasting over floor construction: Lime stone, boiler cinders containing more than ten (10) per cent of unconsumed carbon and soluble ashes, plaster of Paris, sulphate of lime, and all similar materials and any material which will not stand the fire test as prescribed in Title XV.

Sec. 5. Measure of Thickness—

The required thickness of all concrete walls or fireproofing or floor construction is for the full thickness of the material only, exclusive of the plastering or floor ballasting.

Sec. 6. Portland Brick—

Portland brick made of sand and Portland cement, of the same dimensions as common brick, may be substituted for common brick if the Inspector is satisfied that the use of such brick will in no way endanger the stability or safety of the wall according to its exposure.

Sec. 7. Artificial Stone—

Artificial stone made of Portland cement and incombustible and fire and water proof material may be used as a substitute for any natural stone, but no artificial stone containing more than fifteen (15) per cent of lime or crushed lime stone as an ingredient shall be used in a lintel, or bearing part in any building over five (5) stories high, provided, that in all cases under this Section the conditions of safety prescribed in Title V are complied with.

Sec. 8. Portland Building Blocks—

Portland building blocks with hollow spaces not exceeding one-third (1-3) the area of the block and having an annulus of uniform thickness, and not exceeding nine (9) inches high nor less than eight (8) inches on the beds may be substituted for brick in all buildings of the VI class in which the thickness and heights of walls as given in Tables A and B, Title VIII, up to four (4) stories, are prescribed, provided, that an eight (8) inch block shall be deemed the equivalent of one (1) brick in thickness of measure, and that the increment of increase of the thickness is not less than four (4) inches for a half-brick, and that no ten (10) inch block is substituted for a one and one-half (1 1-2) brick wall except in the foundations of a two (2) story building not exceeding twenty-five (25) feet in height without a basement or cellar.

Sec. 9. Monolithic Walls and Piers—

Monolithic concrete walls constructed in place shall be of the thicknesses prescribed in Table B, Title VIII, built up within plank framework in tamped one (1) foot layers and the exposed surfaces shall be well wetted before adding the next succeeding layer. All pockets to receive the ends of floor beams or joists, and all openings properly proportioned to receive door and window frames without cutting shall be left in the wall as it is carried up. No isolated supporting monolithic concrete pier shall be used in the exterior or interior of any building above the basement floor level, except as modified for "trussed" concrete columns in subsequent sections of this Title.

Sec. 10. Concrete Floor Construction—

For the purpose of this Code, all Portland concrete floor construction shall be designated as follows:

(a) "ARCHED" CONCRETE.—When built in an arched form, either with voussoirs or as a monolith, with or without reinforcement.

(b) "SLAB" CONCRETE.—When armored concrete extends in a homogeneous mass around to and rests uniformly on all its supports.

(c) "LINTEL" CONCRETE.—Is reinforced concrete or when the reinforcement of armored concrete is of a larger mesh than the thickness prescribed in Section 13, Title IV, or if the netting or lattice work is broken with a seam or splice so as to break the homogeneity or a "slab." See also "Concrete Floors," Title XV.

(d) For "trussed" concrete floor constructions see Secs. 16, 17 and 18.

Sec. 11. "Trussed"-Concrete Construction—

"Trussed" concrete lintels, joists, beams, girders and columns are lintels, joists, beams, girders and columns made of re-enforced concrete, in which the concrete mixture shall be of such proportions that its resistance to crushing shall not be less than two thousand (2,000) pounds per square inch after hardening twenty-eight (28) days, and the steel re-enforcement is of such shape and so combined with the concrete that the steel will take up the tensile stresses and assist in the resistance to shear along proper structural lines so that the internal stresses and resistances of the combination can be ascertained by computation and verified by tests, as prescribed in Secs. 1, 2, 3 and 4 of Title V.

Sec. 12. "Trussed"-Concrete Stresses—

"Trussed" concrete shall be so designed that the stresses in the concrete and steel shall not exceed the following limits:

	Lbs. per sq. in.
Extreme fibre stress in concrete in compression	500
The shearing stress in concrete and the adhesion of the concrete to steel	50
Concrete in direct compression	350
Tensile stress in steel	16,000
Compression in steel	12,000
Shearing stress in steel	10,000

The ratio of moduli of elasticity of concrete and steel, 1 to 15.

The tensile strength of concrete shall not be considered.

Sec. 13. "Trussed"-Concrete Assumptions—

The following assumptions shall guide in determining the resistance of any "trussed"-concrete member:

(a) BENDING MOMENTS.—For bending moments due to external forces, lintels, joists, beams and girders shall be considered as simply supported at the ends, no allowance being made for continuous construction over supports. "Lintel," or "slab," concrete floor plates of uniform thickness formed of "trussed" concrete, when constructed continuous, and when provided with reinforcement at the top of plate over the supports, may be treated as continuous beams, the bending moment for uniformly distributed loads being taken at not less than $W \times L \div 10$ for "lintel" concrete plates, and $W \times L \div 15$ for "slab," or "armoured," concrete plates. The "trussed" concrete floor plates to the extent of not more than ten (10) times the width of any joist, beam or girder, may be taken as a part of that joist, beam or girder in computing the moment of resistance.

(b) MOMENT OF RESISTENCE.—In the formulae to determine the moment of resistence the following may be assumed that the stress in any fibre is directly proportional to its distance from the neutral axis; provided:

1st. That the bond between the concrete and steel is sufficient to make the two materials act together as a homogeneous solid.

2nd. That the strain in any fibre is directly proportional to the distance of that fibre from the neutral axis.

3rd. That the modulus of elasticity of the concrete remains constant within the limits of the working stresses fixed in this Code.

(c) SHEARING.—When the shearing stresses developed in any part of a "trussed" concrete construction, either vertical or horizontal, exceed the safe working strength of concrete as fixed in this Code, a sufficient amount of steel, of such shape as to assure a mechanical bond, shall be introduced in such a position that the deficiency in the resistance to shear is overcome, provided that all shear members are rigidly secured to the main horizontal reenforcing member.

(d) ADHESION.—When the safe limit of adhesion between the concrete and steel is exceeded, some provision, as prescribed in (c) shall be made for trasmitting the strength of the steel to the concrete.

Sec. 14. "Trussed"-Concrete Columns—

The spacing of the re-enforcing rods from center to center or between the neutral axis of other shapes in a "trussed" concrete column, shall not be less than 1 to 16 of the ratio of the least side or diameter to their clear height. The rods or shapes shall be tied or latticed together at intervals not exceeding the least side or diameter of the finished column as hereinafter prescribed, and, when so spaced or tied, the rods or shapes shall be of sufficient strength to take up the super-imposed load when computed as a latticed steel column of similar size and height to the assembled re-enforcing rods or shapes.

Sec. 15. Columns Filled with Concrete—

Columns composed of structural steel shapes or bars latticed together by riveting and filled in solidly and surrounded by concrete as prescribed in this Title, may be proportioned by assuming that the concrete enclosed within the outer flanges or faces of the shapes or bars takes up a proportioned part of the superimposed load within its limit of stress, provided that the total assumed load on the concrete and steel column combined does not exceed a factor of three (3), if assumed to be carried on the unfilled column when free standing.

Sec. 16. Concrete Column Protection—

The outer shell of a trussed concrete or a concrete filled steel column shall be considered only as a fireproof covering. When such a steel column or an iron column is to be double covered, the outer shell shall be made with armored concrete of small mesh.

Sec. 17. Thickness of "Trussed" Concrete—

The thickness of the concrete on the bottom or exposed side of any re-enforcing steel member of a "trussed" concrete lintel, joist, beam, girder or column shall not be less than two (2) inches, and not less than one (1) inch at the bottom of any "trussed" concrete "lintel," or "slab," floor plate. See also Sec. 11, Title XVI.

Sec. 18. Steel in Concrete—

The steel re-enforcement in concrete shall meet all the requirements of Title XI, except that it shall not be painted, but shall be free from all mill and rust scale.

Sec. 19. "Trussed" Concrete Floor System—

A "trussed" concrete floor system is the system which employs "trussed" concrete for all its members except the columns.

Sec. 20. "Trussed" Concrete Frame—

A "trussed" concrete frame is a framework in which all the iron and steel members of a "skeleton" frame (see Title XII) are replaced by "trussed" concrete, inclusive of the columns.

Sec. 21. "Trussed" Frames and Floors—

The proportioning of "trussed" concrete frames and floor systems and their construction in buildings shall be governed by all sections of this Code which regulate and pertain to iron and steel "skeleton" frames, their framing and enclosing, except that all eccentric loading of columns shall be avoided, and in buildings over two (2) stories high the spans of beams and girders shall be limited as follows: Beams and girders in outer or exterior walls, sixteen (16) feet; in the interior floor system girders shall not exceed twenty (20) feet in length and not exceed sixteen (16) feet on centers, beams sixteen (16) and joists fourteen (14), and where "slab" or "lintel" floor plates are used in connection with joists or beams, the thickness of the plate may be reduced to three (3) inches, if the span does not exceed thirty (30) inches; otherwise the spacing of "trussed" concrete members and floor plates shall be regulated by Secs. 5 and 6 of Title XV, when used under similar conditions.

Sec. 22. Supervision and Working of—

All concrete work shall be constructed along proper structural lines and when a section or panel of armored or reinforced concrete or any trussed concrete member is started, it shall be finished in its entirety before shutting down for noonings or for the day, or for any other purpose which will make necessary a delay of more than thirty (30) minutes' duration.

Sec. 23. Removal of—

All unfinished and unsafe panels or sections shall be removed before starting a new one, and any batches or remnants of materials, containing cement, not used on the first set, shall be condemned and removed whether in the wall or floor, or in the vicinity of the work.

Sec. 24. Centering of—

All centering shall be self-supporting and no center in concrete construction shall be struck until seven (7) days after the concrete is laid.

Sec. 25. Freezing Weather—

All structural concrete exposed to or worked in the outer air shall not be worked when the temperature is 32 degrees F., or less, in the shade, and any concrete liable to be exposed to frost or snow, or ice, before it has attained its permanent set, shall be temporarily protected, and centers of such exposed concrete shall not be removed until the season has advanced beyond the probability of a frost, or until the building is properly enclosed; and all such work after center is removed shall be given the physical test prescribed in Title XV before it is enclosed.

Sec. 26. Inspection—

When any concrete wall or armored or reinforced or trussed concrete is used in construction, the owner shall provide for expert inspection of the cement and inerts and supervision of the construction; a daily record shall be keppt of the tests and the temperature in which the concrete was worked and a certified copy of such record shall be filed with the Inspector once a week, or more often if required by him. See Sec. 20, Title IV.

TITLE XI.

IRON AND STEEL CONSTRUCTION.

Sec. 1. Steel and Wrought Iron—Columns—

(**a**) THICKNESS OF MATERIAL.—No material shall be used in any wrought iron or steel column of less thickness than one thirty-second (1-32) of its unsupported width measured between centres of rivets transversely, or one-sixteenth (1-16) the distance between centres of rivets in the direction of the stress, except as modified in Titles V and XII.

(**b**) JOINTS AND SPLICE-PLATES.—The ends of all columns shall be faced to a plane surface at right angles to the axis of the columns, and the connection between them shall be made with splice-plates near the floor line. The joint may be effected by rivets of sufficient size and number, and the splice-plates shall be of sufficient sectional area to take up the horizontal shear for wind or any eccentric stresses of column spliced. When the section of the columns to be spliced is such that splice-plates cannot be used, a connection formed of plates and angles may be used designed to properly distribute the stress.

(**c**) LENGTHS, FILLERS AND SHOES.—Steel and wrought iron columns shall be made in one, two or three story lengths, and the materials shall be rolled in one length wherever practicable to avoid intermediate splices. Where any part of the section of a column projects beyond that of the column below, the difference shall be made up by filling-plates secured to column by the proper number of rivets. Shoes of iron or steel, as described for cast iron columns, or built shoes of plates and shapes may be used, complying with same requirements.

Sec. 2. Cast Iron Columns—

All cast iron columns shall be of good workmanship and material.

(a) THICKNESS OF SHELL AND FLANGES.—In addition to the requirements of Title V, wherever the core of a cast iron column has shifted more than one-fourth (1-4) the thickness of the shell, the strength shall be computed assuming the thickness of metal all around equal to the thinnest part, and the column shall be condemned if this computation shows the strength to be less than required by these regulations. Wherever blowholes or imperfections are found in a cast iron column which reduces the area of the cross-section at that point more than ten (10) per cent., such column shall be condemned. The top and bottom flanges, seats, and lugs shall be of ample strength, reinforced by fillets and brackets. They shall not be less than one (1) inch in thickness when finished.

(b) FACES AND JOINTS.—All columns must be faced at the ends to a true surface perpendicular to the axis of the column. Column joints shall be secured by not less than four bolts each not less than three-quarters (3-4) of an inch in diameter. The holes for these bolts shall be drilled to a template. The core of a column below a joint shall not be larger than the core of the column above, and the metal shall be tapered down for a distance of not less than six (6) inches, or a joint plate may be inserted of sufficient strength to distribute the load.

(c) FOOT PLATES.—Iron or steel shoes or plates shall be used under the bottom tier of columns to properly distribute the load on the foundation. Shoes shall be planed on top.

(d) HOLES FOR INSPECTION.—Cast iron posts or columns not cast with one open side or back, before being set up in place shall have a three-eighths (3-8) of an inch hole drilled in the shaft of each post or column or any other similar sized hole or holes which the Inspector may require to exhibit the thickness of the castings, shall be drilled in the said posts or columns by the manufacturer or contractor furnishing the same at his own expense.

Sec. 3. Open Back Columns—

Iron or steel posts or columns with one or more open sides and backs shall have solid iron plates on top of each, excepting where pierced for the passage of pipes.

Sec. 4. Box or Plate Girders—

Rivets in iron or steel flanges shall be spaced so that the least value of a rivet for either shear or bearing is equal or greater than the increment of strain due to the distance between adjoining rivets. All other rules given under riveting shall be followed. The length of rivets between heads shall be limited to four (4) times the diameter. The compression flange of beams or plate girders shall be secured against buckling if its length exceeds thirty (30) times its width. If splices are used, they shall fully make good the members spliced in either tension or compression.

Sec. 5. Stiffeners—

Stiffeners shall be provided on both sides of the web over supports and under concentrated loads. They shall be of sufficient strength to carry the loads and shall be connected with a sufficient number of rivets to transmit the stresses into the web plate. Stiffeners shall fit so as to support the flanges of the girders. Stiffeners shall be used whenever the total shear at any section of the girder, divided by the clear distance between the flanges in feet, exceeds the safe shear per foot run as given by the following formulas:

$$\frac{(s \div f) \times 12t}{1 + (d^2 \div 3000\, t^2)}$$

in which s=ultimate strength of material in tension.
f=required factor of safety.
t=thickness of web plate in inches.
d=clear distance between flanges or stiffeners in inches.

Sec. 6. Rolled Steel and Wrought Iron Beams—.

All rolled steel and wrought iron floor and roof beams used in buildings shall be of full weight, straight and free from injurious defects.

When rolled steel or wrought iron beams are used in pairs to form a girder, they shall be connected together by bolts and iron separators at the ends over supports and under concentrated loads, or at intervals of not more than five (5) feet for uniformly distributed loads. All beams twelve (12) inches and over in depth shall have at least two (2) bolts to each separator. For buckling see Sec. 4.

Sec. 7. Tie Rods—

Tie-rods shall be proportioned to resist their respective stresses and have nuts or turn buckles according to the duty to be performed. Holes for tie-rods in beams and channels shall be placed as near the thrust of the arch as practicable. Channels and other shapes where used as skew-backs, shall have a sufficient resisting moment to take up the thrust of the arch. Tie-rods entering walls shall be thoroughly anchored therein.

Sec. 8. Framing and Connections—

All framing of an iron or steel frame proportioned according to the provisions of Title V shall have the shop and field connections made by riveting , if possible, and the connections between cast iron and wrought iron or steel members made with the straps and bolts as rigid as possible.

Sec. 9. Bolting—

When beams are joined on the tops of girders they shall be tied together with the straps and to the girders with bolts. When riveting is not possible or mandatory, connections may be effected with bolts. Beveled washers shall be used whenever necessary to fit the pitch lines of members.

Sec. 10. Riveting of Structural Steel and Wrought Iron Work—

The distance from centre of a rivet hole to the edge of the material shall not be less than one and one-half (1 1-2) times the diameter of the rivet. Wherever possible, however, the distance shall be equal to two (2) diameters. All rivets, wherever practicable, shall be machine driven. The rivets in connections shall be proportioned and placed to suit the stresses. The pitch of rivets shall never be less than three (3) diameters of the rivet nor more than six (6) inches. Gussets shall be provided wherever required, of sufficient thickness and size to accommodate the number of rivets necessary to make the connection.

Sec. 11. Steel and Wrought Iron Trusses—

Trusses shall be of such design that the stresses in each member can be calculated. All trusses shall be held rigidly in position by efficient systems of lateral and sway bracing Any member of a truss subjected to transverse stress, in addition to direct tension or compression, shall have the stresses causing such strain added to the direct stresses coming on the member, and the total stresses thus formed shall in no case exceed the maximum allowable working stresses as provided in Title V.

Sec. 12. Wall Plates—

Bearing plates of stone or metal shall be used to reduce the pressure on the wall to the working stress given in Title V under the wall ends of all beams, girders, lintels and trusses. Wall plates under beams and channels may be as per standards in Title IV; when lintel span openings not over six (6) feet in the clear or the floor beams do not exceed six (6) inches in depth and are spaced not more than thirty (30) inches on centres templets may be omitted.

Sec. 13. Anchoring—

Anchors shall be provided at the ends of all beams, channels, girders, or trusses bearing on walls, as prescribed in Title XII.

Sec. 14. Bracing of Frame—

The iron or steel frame of any building shall be carried up true and plumb and be rigidly braced from the beams of every story and left until the building is enclosed. No more than three (3) stories shall be riveted up in advance of the others without completly plumbing, bracing, connecting and riveting up the work in the stories below.

Sec. 15. Metal Fronts Backing—

All cast iron or other metal fronts shall be designed to allow for expansion and contraction, backed up and made weather tight, and protected from corrosion by being filled in solid with masonry, stone or cinder concrete not less than eight (8) inches thick in front of the skeleton frame.

Sec. 16. Painting of Structural Metal Work—

All structural metal work shall be cleaned of all scale, dirt and rust and be thoroughly coated with one (1) coat of non-oxidizing or red lead paint before leaving the shop or before erection. Cast iron columns shall not be painted until after the approval of their inspection by the Inspector. Where surfaces in riveted work come in contact, they shall be painted before assembling. After erection all spaces left for shop marks, all abrasions, and all rivet heads and bolts are to be gone over with a coat of paint, after which the whole frame shall be painted with at least one (1) additional coat of a different tint from the first.

All iron or steel used below water level shall be enclosed with Portland concrete to exclude the air and water. See Title VII.

Sec. 17. Brackets and Cantilevers—

All metal fire escapes, balconies, bridges, ladders, chains, scuttles, brackets, tanks and piping exposed to the outer air or subject to corrosion shall be proportioned with a factor of safety prescribed for exposed work in Title V, and all such work shall be painted as prescribed under the previous section. All brackets and cantilevers for bays, balconies and fire escapes shall be placed at or as near the floor level as possible, and no such bracket or cantilever shall be attached to a wall one (1) brick thick or any other wall unless the overturning moment with a factor of three (3) is provided for by additional stiffeners, or posts between the floors in the inside of the wall, or anchorage to or through the floor system to the next wall.

TITLE XII.

SKELETON FRAMES.

Sec. 1. Proportioning a Frame—

In proportioning an iron or steel "skeleton" or "wall bearing" frame each part shall be strong enough to carry the superimposed load without reliance upon the walls below or enclosing them and all columns shall be continuous from foundations to the top of the building.

Girders for the support of enclosure walls shall be placed at the level of the floors except that when there is a floor beam or channel placed along and anchored to an outer wall having window openings, the girder may be placed in any part of the apron.

Irregular or eccentric loading shall be avoided as much as possible and as far as practicable, the frame shall be so designed that all connections between columns and beams and joints of columns shall be accessible after erection for the purpose of inspection, cleaning and painting.

Sec. 2. Cast Iron in an Iron or Steel Frame—

The use of cast iron in a skeleton or wall bearing frame shall be limited as follows:

No cast iron lintels over four (4) feet in span shall be used in buildings of the I, II and III classes.

No cast iron columns shall be used in any building lacking in initial stability against wind pressure.

In buildings less than ten (10) stories in height, cast iron columns may be used, in which case the column connections shall be bolted. In buildings of less than ten (10) stories, where the skeleton construction of the external walls is replaced by "wall bearings" of proper and sufficient strength, the interior columns may be of cast iron.

No "cored" cast iron column shall be used in any building exceeding four (4) stories or sixty (60) feet in height.

Sec. 3. Floor System—

The floor system of a "skeleton" or "wall bearing" frame shall be constructed with wrought iron or steel floor beams or girders so arranged as to spacing and length of beams that the load to be supported by them, together with the weights of the materials used in the construction of the said floors, shall not cause a greater deflection of the said beams than one-thirtieth (1-30) of an inch per foot of span under the total load; and they shall be tied together at intervals not exceeding eight (8) times the depth of the beam, and not exceeding eight (8) feet for all beams under twelve (12) inches high, and all columns or beams adjoining the outside walls shall be properly anchored to said walls at similar distances. For the spacing of floor beams for different methods of fireproofing and loading, see Section 6, Title XV.

Sec. 4. Stiffening Beams—

Each panel of a floor system shall have beams, girders or walls between each corner column or wall bearing, and when a floor system is introduced which does not employ beams to transmit the intermediate loads to the girders, but spans the full width of the panel between two (2) girders, stiffening beams at right angles to the supports shall be introduced of such proportions so as to act as a strut strong enough to resist buckling in the direction of the flanges with the full load of a panel.

Sec. 5. Intermediate Stiffeners—

When a panel, as per the previous section, is of such dimensions that the length of the girders exceeds the maximum span allowed for the floor system used, additional stiffening beams or tie rods shall be introduced at intervals not exceeding the length of the maximum span for the prescribed thickness, and in "arched" or "lintel" or "slab" concrete construction if a tie-rod is used it shall be placed within the lower third of the web of the beam or girder and reinforced by cable or truss rods surrounded by concrete not less than two (2) inches in thickness outside of the metal reinforcing members, but such concrete stiffeners shall never be less than six (6) inches in width.

Sec. 6. Iron or Steel Plates for Support of Fireproofing—

If iron or steel plates are used in each story for the support of covering within the said story, such plates must be of sufficient strength to carry within the limits of fiber strain for iron and steel as elsewhere specified in this Code the enveloping material for the said story, and such plates shall extend to within one and three-quarters (1 3-4) inches of the exterior of said covering.

Sec. 7. Enclosing Walls—

All iron or steel used as a supporting member of the external construction of any building exceeding four (4) stories, or over sixty (60) feet in height, shall be protected against the effects of external changes of temperature and of fire by a covering of brick, terra cotta or fireproofing tile, completely enveloping said structural members of iron and steel. If of brick it shall not be less than eight (8) inches thick. If of hollow tile it shall not be less than eight (8) inches thick, and there shall be at least two (2) sets of air spaces between the iron and steel members and the outside of the hollow tile covering. In all cases the brick or hollow tile shall be bedded in mortar close up to the iron or steel members and all joints and horizontal hollows of terra cotta shall be made full and solid. If the whole column or frame is encased in concrete extending at least two (2) inches beyond the exterior metal members, the thickness of the brick facing may be reduced to four (4) inches and the hollow tile or terra cotta to six (6) inches.

Wherever stone facing is used it shall be an additional thickness to the column covering, which covering shall not be less than four (4) inches thick and may be of either brick, tile, terra cotta or concrete.

Sec. 8. Support of Fireproofing for Same—

Where skeleton construction is used for the whole or part of a building these enveloping materials shall be independently supported on the skeleton frame for each individual story. In regard to Curtain and Apron walls, see Title VIII.

Sec. 9. Position of Columns and Beams in Party Walls—

The applicant, when applying for a permit to build an iron or steel frame building, shall submit plans, specifications and iron or steel framing drawings, showing the positions of the columns and wall beams in the party wall, if any, already constructed or in process of construction, and the positions of the columns and beams intended to be inserted in or against the wall.

Sec. 10. Thickness of Fireproof Material in Party Walls—

All columns and beams shall be so arranged and erected that at least one (1) brick thickness of brickwork, masonry or concrete shall be preserved or introduced between each and all beams and columns' of the adjoining buildings, and where it is proposed to construct a non-fireproof building against a party wall of steel frame or skeleton construction, no cuts, slots, holes or openings of any kind shall be made to come within nine (9) inches of the framework or to preserve less than one (1) brick thickness of brickwork or fireproof material outside of and around the steel frame or structural iron work of the building already erected or in process of construction.

Sec. 11. Top Covering—

The upper surfaces of all breaks or offsets in external coverings and fillings of walls, as well as the tops of walls, shall be covered with stone, terra cotta or fire-clay copings set in cement mortar and having lapped joints pointed with cement, or otherwise made waterproof.

Sec. 12. Adjoining Pipes—

Wherever steam, water, plumbing or other pipes which might cause condensation or irregular variations of temperature are enclosed and adjoin any member of an iron or steel frame, such pipe shall be covered as prescribed in Title XX and in addition the structural metal members shall have all external air spaces on all sides along their entire length filled in solidly with concrete not less than two (2) inches thick beyond the extreme edges of the flanges before the fireproof material or enclosing partition is put in place.

The provisions of this section for the protection of the metal members shall also apply where any system of piping, tubing or hollow conduits is to be enclosed with such members.

TITLE XIII.

WOOD CONSTRUCTION.

All subjects under this Title relate to the general framing and use of wood in non-fireproof and frame buildings.

Sec. 1. Floor and Roof Beams—

No floor or roof beam or joist used in any building of the VI or VII class hereafter erected shall be of a less thickness than two (2) inch stock, except in dwelling houses not exceeding fifteen (15) feet wide, when one and three-quarters (1 3-4) inches will be permissible.

Ends of all wooden floors or roof beams in buildings of the VI class shall enter the wall to the depth of four (4) inches, unless the wall is properly corbeled out four (4) inches, in which case brick work on corbeling shall extend to the top of joists.

The ends of all such beams shall be shaped or arranged that in case of any deflection or breaking they may fall out without doing much injury to the brick wall. All joists entering any brick or stone wall shall be splayed one-quarter (¼) inch to one (1) inch shorter at top edge.

Sec. 2. Bridging—

All wooden floor or wooden roof joists, except in "mill" construction, shall be properly bridged with cross bridging, and the distance between bridging or between bridging and walls shall not be more than eight (8) feet.

Sec. 3. Trimmer and Header Beams—

Trimmer and header beams shall be at least one (1) inch thicker than the joist. If trimmers are spaced more than three (3) feet apart they shall be double the thickness of the floor or roof beams, or shall be made of two (2) beams forming such thickness, properly spiked or bolted together.

When the header is more than fifteen (15) feet in length (or where the header beam is over seven (7) feet long and is framed to the trimmer beams more than five (5) feet from the bearing end thereof) wrought iron flitch plates of proper thickness and depth shall be placed between the wooden beams, and all suitably bolted together through the iron plates; or steel beams of sufficient strength may be used in place of flitch plate beams. Every beam, except header and tail beams, shall rest not less than four (4) inches upon the wall, or on a girder as provided by this Title.

Sec. 4. Hangers and Stirrup Irons—

Every wooden header or trimmer or tail-beam more than (8) feet long used in any building other than those of the First and Second grades in which buildings such length shall not exceed four (4) feet, shall be hung in stirrup irons or standard hangers of suitable strength for the size of the timber. When joists or beams are hung in standard joist or wall hangers, their wall ends shall be anchored and their girder ends strapped together at no less an interval and in like manner as prescribed in Sec. 6.

Sec. 5. Cutting Beams and Supports—

No wooden beam or joist shall be cut for pipe or bored for "knob and tube" electrical work when the cut is deeper or the center of bore hole is below one-fifth (1-5) of its depth from the top, nor at a point beyond three (3) times its depth from the ends. Cuts or centers of bore holes shall never be more than two (2) inches below the top; and if the depth of a two (2) inch or less cut or bore hole is required to be made, and if such cut exceeds one-fifth (1-5) the depth of the joist, such joist shall be made of the next size deeper, or the design of the piping or wiring shall be changed. Under no circumstances, except for constructive framing, shall a joist or beam be cut or channeled out vertically, nor shall a stud, post or plate in a bearing partition be cut into in any direction except that plates may be cut to a depth of one-third (1-3) their width. but not exceeding one-quarter (1-4) of their area between supporting studs for the passage of water and gas pipe and electrical wires or tubing, and that studs may be bored near their centers for electric knob and tube work if the diameter of such tubes does not exceed one-fifth (1-5) of the depth of such studs and are spaced no nearer than twelve (12) inches on centers.

Sec. 6. Anchors—

Each tier of beams shall be anchored to the side, front. rear or party walls at intervals of not more than eight (8) feet apart, with good, strong, wrought iron anchors. The ends of beams resting upon girders shall be butted together end to end, and strapped with wrought iron straps of the same size and distance apart, and in the same beam as the wall anchors. or they may lap each other at least twelve (12) inches and be well spiked or bolted together where lapped, or spiked to their bearings and studs as in balloon framing. Where beams are supported by girders, the girders shall be anchored to the walls and fastened to each other by suitable straps.

Every pier or wall, front or rear, shall be well anchored to the beams, with the same size anchors as are required for the side walls, which anchors shall hook over the second joist, but no anchor shall cut into a beam or joist within four (4) feet of its center.

Sec. 7. Deafening of Floors—

All deafening used to make a floor sound-proof shall be made with incombustible material, and in all buildings of the VI and VII classes hereafter to be erected such deafening shall either be cut in between the supporting joists or beams, or placed above them, and no suspended ceiling below a wooden constructed floor system shall be used for such purpose unless the room in which said ceiling is used shall be surrounded on all sides by continuous brick or fireproof constructed walls.

Sec. 8. Caps for Wooden Columns—

Wooden columns supporting wooden girders and wooden floor and wooden roof beams, in all buildings more than two (2) stories high, shall have wooden caps of proper size or cast iron caps and base plates not less than one (1) inch thick, and of proper size and shape, or wrought iron or steel post caps of standard shape.

In all non-fireproof buildings of over three (3) stories or forty (40) feet in height the bearing and division lines of supports shall be as follows: The roof and next floor below may be carried on columns or posts with wooden caps and bolsters. but all other floors shall be carried on columns with metal caps as prescribed in Title XVIII.

All columns shall extend down to and rest directly on the bolsters or caps. When posts are large enough to safely provide for at least four (4) inches of bearing for the girders they may rest directly on the girder, but not for more than the two (2) upper stories of buildings of the VI class, and all buildings of the VII class occupied in whole or in part for the purposes as set forth in Divisions (d) and (e) of the First Grade and Divisions (d), (e) and (f) of the Second Grade, if more than one (1) story high, shall have the outer walls framed solid as in "mill" construction.

Sec. 9. Wooden Columns in Basements—

Wooden columns or posts may be used in the basement of any non-fireproof building not exceeding four (4) stories in heighth, provided that the provisions of this Code relative to precautions against ground dampness and contact with water from drippings of melting ice or otherwise as in bathrooms, laundries, storage houses, or in places where water used for cleaning purposes runs over floor, be complied with. The base of all wooden columns shall extend at least six (6) inches above the finished floor and set on a metal base plate, and all such basement columns built in partitions must be left open on two (2) sides.

Sec. 10. Furring of Walls—

When walls are furred for lath and plastering there shall be continuous horizontal strips placed close up to the joists top and bottom; after the walls are furred, and before the plastering is done the wall shall be plastered with one (1) heavy coat of mortar six (6) inches wide just above and below the horizontal strips.

No wooden lath or furring shall be used for any building of a class better than the VI, but the use of incombustible stud or solid plank with metal lath partitions one (1) story high is permissible in buildings of the IV and V classes.

Sec. 11. Stud Partitions—

No stud in a bearing partition wall shall be less than two (2) inches x four (4) inches spaced not over sixteen (16) inches on centers. No wooden stud partition except in buildings not exceeding two (2) stories high shall pass through from floor to floor, and hereafter all fore and aft and all bearing partitions, and all stud partitions which are directly over each other, shall run through to the wooden floor beams or joists and rest upon the plate, beam or girders below, and shall have the studding filled in solid between the uprights to the depth of the floor beams with suitable incombustible materials, single dwellings, designed to be occupied by but one (1) family, alone excepted.

Non-bearing stud partitions may rest directly on a plate over double joists or on the rough floor at right angles to the joists, provided that a similar plate or cut-off is placed at the head or ceiling line.

All angles and corners of studs shall be framed solid, and no lath shall extend through from room to room.

Sec. 12. Pipes in Stud Partitions—

All stud partitions containing plumbing, heating or other pipes shall be so framed and the joists or beams underneath so spaced or blocked apart or trimmed, as to give proper clearance for the piping without cutting, as prescribed in Section 5, and all such piping passing through floors shall be boxed in and fire stopped between the joists to prevent the spread of fire.

Sec. 13. Cornices and Projections—

The use of wood cornices at the top of buildings, show windows and bays is prohibited on any fireproof building, and on all non-fireproof buildings over two (2) stories high in the fire limits, and on buildings over three (3) stories high in the "urban" district. No such cornices shall be over two (2) feet high. No wooden bay shall extend more than three (3) feet above the third tier of joists without being metal clad. All wooden projections and cornices more than five (5) inches wide shall be covered with tin or other non-combustible roof covering.

Sec. 14. Balconies and Porches—

Wooden porches resting on masonry foundations not less than (1) foot above the grade may be built two (2) stories in height if attached to buildings of the VI or VII classes, but no outside wooden stair of ordinary construction connecting them shall be over one (1) story high. No wooden balcony or porch in any district shall project from any building above the third floor line.

TITLE XIV.

PLASTERING.

Sec. 1. Quality—

The coat of plastering upon any wall, ceiling or column shall not be regarded as part of the thickness, and no plaster which has plaster of Paris or lime as an ingredient will be classed as a fire or water resisting plaster.

Sec. 2. Plastering Fireproof Construction—

All fireproofed ceilings, columns, girders and partitions, except in attics, shall be plastered at least one (1) coat, and in all places where plastering is used in connection with fireproof or semi-fireproof construction, asbestos plastering, or hard plaster equally as good, shall be used, except that in buildings other than of the I class the finishing coat, if white or sand finish may be an ordinary putty coat or lime and sand.

Sec. 3. Wall to be Plastered Back of Wood Wainscoting—

When wood wainscoting or base boards are used in any building, except of the VII class, hereafter erected, the surface of the wall or partition behind such wainscoting shall be plastered down to the floor line, unless said wainscoting is placed against a brick, stone or tile wall or partition. No wood sheathing shall be permitted where joists are used, upon the ceilings of mercantile or manufacturing buildings. Such ceilings shall, if covered in, be plastered or covered with some incombustible material. This shall not prohibit boxed beams when put up against plaster, provided that the restrictions of this section shall not apply to buildings of the VII class.

Sec. 4. On Inspection—

No piping or wiring shall be covered in by lathing, sheathing or otherwise until the Inspector has by examination ascertained that the building, partition, structure, piping or wiring has been built in compliance with the provisions of this Code. The Inspector shall be notified by the owner or his duly auhorized agent, or by the contractor for such piping and wiring, whenever any building is ready for inspection. And no piping or wiring shall be covered in by lathing, plastering, sheathing or otherwise, until such inspection is made, and the Inspector has issued a certificate to the effect that the building, partition, structure, piping or wiring has been built in compliance with the provisions of this Code.

Sec. 5. Plaster Veneer—

Outside plastering on wood, or metal lath attached to wooden frames or furring, shall be classed as a veneered wooden frame and the use of such veneer in bays or gables shall be limited to buildings of the VI and VII classes.

TITLE XV.

FIREPROOF CONSTRUCTION AND FLOORS.

Sec. 1. Term "Fireproof Construction"—

The term "fireproof construction" shall apply to all buildings in which all parts that carry weights or resist strains are made of incombustible materials which are water and fireproof, or which, if not of themselves possessed of these qualifications, are covered and protected by fire and waterproof materials, which are slow heat conductors, and so secured in place as not to be dislodged by the effects of fire and water under extreme circumstances, provided, that any metallic or other incombustible decorative material used need not be covered.

When the principal structural parts are of steel or any other metal of sufficient strength and durability, in accordance with Titles V. XI and XII, every part of such structure shall be securely covered with a fire and waterproof material, which shall extend at least two (2) inches outside of the most projecting parts of such constructive material, whether the same is used as an additional structural member or placed for protection only.

Sec. 2. Door and Window Mullions—

In fireproof buildings all door or window mullions, whether vertical or horizontal, shall be faced with cast iron, terra cotta or other incombustible material of equal fire resisting values.

Sec. 3. Fire and Waterproof Material—

Fire and waterproof coverings must be entirely incombustible and slow heat conductors. The materials which shall be considered as filling the conditions of fireproof covering are:

First.—Brick.

Second.—Porous terra-cotta, which shall be at least two (2) inches thick if hollow, and not less than one and one-quarter (1 1-4) inches thick if solid, and this shall be applied direct to the metal in a bed of mortar.

Third.—Semi-porous terra-cotta not less than two (2) inches if hollow and one and one-half (1 1-2) inches thick if solid.

Fourth.—Dense hollow tiles or burnt clay at least two (2) inches thick applied to the metal in a bed of mortar and constructed in such a manner that there shall be an air space of at least three-quarters (3-4) of an inch each by the width of the metal surface to be covered, within the said clay covering.

Fifth.—Fireproof concrete as prescribed under Title X.

Sixth.—Plastering on metal lath.

Sec. 4. Fireproof Floor Arches—

Fireproof floor arches may be made as follows:

(a) BRICK ARCHES.—If arches are of brick and of sufficient skew back they may be unlimited in span. If the brick arch is segmental, the rise shall not be less than one-twelfth (1-12) of the span and not less than four (4) inches thick at the crown up to six (6) foot spans, nor less than eight (8) inches for spans up to twelve (12) feet.

Said arches shall be composed of good hard brick, or hollow brick of ordinary dimensions, laid to a line on the centers properly and solidly bonded, each longitudinal line of brick breaking joints with the adjoining lines in the same ring, and with the ring under it when more than four (4) inch arch is used. The brick shall be well wet, the joints filled in solid with cement mortar, and the arches well grouted and properly keyed.

(b) TILE AND TERRA COTTA ARCHES.—If hollow tile or porous terra cotta arches are used they shall be of uniform density and hardness of burn; the rise shall not be less than one-tenth (1-10) of the span nor less than four (4) inches up to five (5) feet, nor less than six (6) inches at the crown for span up to ten (10) feet.

In tile and terra cotta arches the joints shall be solidly filled with cement mortar as required of common brick arches, and the arches so constructed that the key block shall always fall in the center portion. The shells and webs of all end construction blocks shall abut one against another.

(c) CONCRETE BRICK ARCHES.—Concrete brick arches shall be set and laid as specified for brick arches under division (a) of this section.

The rise shall not be less than one-ninth (1-9) the span, with four (4) inches thickness at the crown for spans up to six (6) feet, and eight (8) inches for spans not exceeding ten (10) feet if vousoir arches are used.

(d) MONOLITHIC ARCHES.—Monolithic concrete arches shall in all cases be re-inforced and protected on the under side with corrugated or sheet steel, steel ribs or metal in other form weighing not less than one (1) pound per square foot. The thickness at crown shall not be less than one-fifteenth (1-15) of the span, but not less than four (4) inches, nor shall any span exceed ten (10) feet.

(e) All floor arches are to be filled up level with the top of the crown with Portland concrete and all tie rods and metal structural bearing surfaces shall be covered with covering not less than two (2) inches thick.

Sec. 5. Flat Arches—

Fireproof floor construction made of terra cotta or tile finishing with a flat ceiling shall have the tie rods within the lower third of the height of the supporting beams, provided the same are no nearer than two (2) inches to the soffits and the spans are limited as hereinafter prescribed.

(a) POROUS AND SEMI-POROUS TERRA COTTA.—If of side construction the span of a flat arch shall not exceed eight (8) times the effective depth of the arch measured upward from the lower flange, but not over ten (10) times for end construction or lintels. When the skew back of a side construction is moulded to and is not less than two (2) inches below and joints on the center of the lower flange, the span may be eight (8) times the total depth of the arch, but not over twelve (12) feet.

(b) DENSE TILE.—The span of side and end or lintel constructed floors shall not exceed four-fifths (4-5) of the limits given in division (a) of this section.

(c) LINTEL CONCRETE.—The depth or thickness of concrete shall never be less than four (4) inches nor shall the span exceed twenty (20) times the thickness of the "lintel" or exceed eight (8) feet in I and II class buildings, or fourteen (14) feet in III class buildings.

(d) SLAB CONCRETE shall never be less than four (4) inches thick nor shall the span exceed twenty-five (25) times the thickness of the slab or exceed ten (10) feet in I and II class buildings or sixteen (16) feet in III class buildings.

(e) ROOF CONCRETE AND TILE.—Hollow book tile in short spans and concrete in fireproof construction shall never be less than three (3) inches thick. If the roof is of lintel or slab concrete construction their respective spans, limited as prescribed in sub-sections (c) and (d), shall not exceed thirty (30) and thirty-five (35) times the thickness of the plate

(f) TRUSSED CONCRETE.—See Title X.

Sec. 6. Spans and Spacing—

The dimensions given in any section under this Title shall be regarded as the maximum limit of the span between the beams or girders when carrying "live" loads not exceeding sixty (60) pounds per square foot.

When the floor loading is over sixty (60) but not over one hundred (100) pounds per square foot and the load is quiescent or the building contains machines requiring a "live" load not over fifty (50) pounds per square foot, the spans shall be reduced twenty (20) per cent, and thirty-three (33) per cent for all buildings designed to carry "live" loads over one hundred (100) pounds per square foot or vibratory machinery requiring a "live" load of over fifty (50) pounds per square foot, or if it is to be used as a warehouse, store or salesroom, workshop or factory for inflammable, easily ignited or hazardous risks, irrespective of the floor load.

Provided that the effective thickness of any fireproof floor construction may be increased instead of the spans being decreased, if the ratio of span to thickness shall be decreased twenty (20) and thirty-three (33) per cent. respectively for the conditions as herein prescribed.

Sec. 7. Skew Backs and Filling—

All skew backs shall be of such form and section as to properly receive the thrust of the arches.

Arches and filling of any kind between floor beams, which are likely to be injured by frost during freezing weather, shall be temporarily covered with suitable material for protection from freezing. On top of any arch, lintel or other device which does not extend to and form a horizontal line with the top of the floor beams, cinder concrete or other suitable hollow or solid fireproof material shall be placed to fill up the space to a level with the top of the floor beams and shall be carried to the under side of the wood floor boards in case such be used.

If the finished floor is of concrete, tile or any other incombustible material, the bed of concrete filling to receive such finished floors shall extend at least one and three-quarter (1 3-4) inches above the tops of the flanges of beams and girders, but no such concrete filling or floor shall be regarded as part of the effective thickness of any fireproof floor construction.

Sec. 8. Centering—

Temporary centering when used in placing fireproof systems between floor beams shall not be removed within four (4) days or until such time as the mortar or material has set and the floor system is safe for ordinary working loads.

For centering of concrete floors, see Title X.

Sec. 9. Exposed Flanges, Webs and Plates—

The bottom flanges of all wrought iron or rolled steel floor and flat roof beams, and all exposed portions of such beams below the abutments of the floor arches, irrespective of their form, shall be entirely encased in hard-burnt clay, porous or semi-porous terra cotta or other fire proof material allowed to be used for the filling between the beams in accordance with the provisions of this Title; such encasing material to be no less than two (2) inches thick and to be properly moulded and secured to the beams and if the encasing material of such members is of concrete it shall be armored concrete.

The exposed sides and bottom plates or flanges of wrought iron or rolled steel girders supporting iron or steel floor beams, or supporting floor arches or floors, shall be entirely encased in the same manner.

Sec. 10. Support of Fireproofing—

In all cases the covering of beams, if of hollow tile or porous or semi-porous terra cotta, shall be so applied as to be supported entirely by the beams or girders protected, and shall be held in place entirely by the support of the flanges of such beams or girders and by the mortar used in setting. Wire binding and anchors shall not be used as fastenings of such fire proof covering.

Sec. 11. Encasing Interior Columns—

All cast iron, wrought iron, or rolled steel columns, including the lugs and brackets on same, used in the interior of any fire proof building, or used to support any fireproof floor, shall be protected with not less than two (2) inches of fireproof material, securely applied. The extreme outer edge of lugs and brackets and similar supporting material may project to within seven-eighths (7-8) of an inch of the surface of the fireproofing. For encasing of columns and beams, see also Title XVI.

Sec. 12. Metal Lath and Plaster—

Plastering on wire or metal lath shall not be considered as a fireproofing for steel or iron structural members nor used as a substitute for armored concrete in a fireproof building, but may be used with an air space under arch constructions as a suspended ceiling, provided such arches have at least one (1) inch of thickness of fireproofing under the flanges in addition to such ceiling and that the metal lath and plaster is suspended separately from the arch construction, and is not less than one (1) inch below the same. Plastering on wire or metal lath may be used as a protection for the soffits and sides of iron or steel floor beams and girders in any building of the IV, V and VI classes, provided the metal lath and plastering is suspended or secured by double hooked clips made from one and one-quarter (1 1-4) by one-eighth (1-8) of an inch steel spaced not over eighteen (18) inches apart, the metal lath surface being not less than one (1) inch below the soffits of the beams. The plastering shall consist of not less than two (2) coats, of mortar as prescribed in Sec. 2, Title XIV, and aggregating not less than seven-eights (7-8) of an inch in thickness.

Plastering on wire or metal lath may be used as a protection to steel or cast iron columns in IV class buildings when a double thickness of wire lath and plaster as herein prescribed and a double air space of not less than three-quarters (3-4) of an inch between the layers of plaster is provided; provided that in buildings of the V and VI classes only one (1) layer of such plastering may be used. See also "Semi-Fireproof Buildings" in Titles II and XVII.

Sec. 13. Floor Openings—

All floor openings of a greater area than three (3) inches square shall be provided with metal frames or collars built in as the fireproof floor is laid.

Sec. 14. Fireproof Floor Tests—

All fireproof floor construction hereafter to be erected shall as a precedent condition of its being used be tested as herein provided by the manufacturer, owner or patentee under the direction of the Inspector of Buildings and Chief of Fire Department, as hereinafter prescribed, and a record of the same shall be kept on file in the Department of Buildings, showing the nature and the result of the test.

Sec. 15. Nature of Test—

All tests shall be made to ascertain the effects of uniformly distributed still loads; 2nd—Falling loads, and 3rd—Fire and water, as follows:

Tests for still and falling loads may be made on a full size panel in the building if subjected to the prescribed conditions of Sec. 16 and 17; or all tests shall be made by constructing within enclosing walls a platform or a full size panel of the system to be tested consisting of girders, beams and floor construction with all exposed parts fire proofed and plastered on the under side, constructed, finished, exposed and loaded as in actual practice. For still loads and fire tests the top of the panel may be covered over with a two (2) inch layer of sand, and for the falling test the floor may be finished as in a finished job. And in all cases the factors of safety given in Title V shall be used.

Sec. 16. Still Load Test—

A still load equivalent to the "live" load to be used shall be uniformily distributed over the whole filling between beams in such manner as to produce no greater shear at the ends of the arches, lintels or slabs than in actual practice and left standing for twenty-four (24) hours; after noting deflection and cracking it shall be gradually loaded to destruction. Should there be cracking of the plastering or greater deflection than prescribed in Sec. 3, Title XII, under the dead load, or should the breaking load develop a smaller factor of safety than prescribed, the floor loads shall be changed or system strengthened before its use shall be permitted. When the Inspector shall require a still load test of any system of fire-proof construction to be made after it is erected, such tests within three (3) days after the centers are struck shall show that the construction will sustain a load of three (3) times that for which it is designed without sign of failure. The provisions of this Section shall also apply to trussed concrete twenty-seven (27) days after the starting of the work to be tested.

Sec. 17. Falling Load Test—

This test shall be made after loading the floor with its full equivalent of "live" load as prescribed above for all floors used or intended to be used for mercantile or manufacturing purposes by letting the heaviest bulk article of merchandise or any commodity in its original package placed or to be placed on such floor fall from its highest location or storage point in a tier in the center of a panel. If three (3) repeated tests at the same point cause cracking or damage to the arches or plastering underneath, the method of loading shall be changed or the floor system shall be strengthened.

Sec. 18. Fire Test—

The panel for this test if of concrete, lintel, slab or trussed construction shall extend at least to (2) feet beyond the girders; and if of any arch construction there shall be at least three (3) sections or spans of full length in a panel, and the test applied in the middle section. The panel or section shall be loaded with the full "live" load as prescribed in Sec. 16 of this Title for still load and subjected to a continuous heat of a wood fire from a grate not less than ten (10) feet below said flooring to be tested. A temperature of seventeen hundred (1.700) degrees Fahrenheit is to be obtained as soon as practicable, and an average temperature of not less than eighteen hundred (1,800) degrees Fahrenheit is to be maintained for a period of not less than three (3) hours.

Sec. 19. Flame Proof—

The condition of the panel or platform during this test must be such that no flame has passed through any of its parts and that no part of the load has fallen through.

Sec. 20. Water Test—

At the end of the heat test a stream of water shall be directed against the bottom of the platform and discharged through a one and one-eighth (1 1-8) inch nozzle under sixty (60) pounds pressure for five (5) minutes. After the top of the platform shall have been flooded with water under low pressure, then the high pressure stream of water as prescribed above shall be again applied on the bottom of the platform for five (5) minutes.

Sec. 21. Deflection—

At the end of the water test the total load uniformly distributed shall be increased to four (4) times the amount of the "live" load used and shall not be removed until after the platform or panel shall have cooled. And when removed the condition of the fireproof covering and protection shall have been such that the maximum deflection of the beams or girders shall not exceed four (4) times the allowed deflection prescribed for beams in Title XII.

Sec. 22. System Prohibited—

Any system of construction failing to meet the reqquirements of the test of heat, water and weight, as herein prescribed, shall not be used in any building hereafter erected.

Sec. 23. Certified Tests—

Certified copies of duly authenticated records of the tests heretofore made of any system of fireproof filling and protection of the exposed parts of the beams and all metal structural parts may be presented to the Department of Buildings, and if the same comply with the requirements of tests of this Title to the satisfaction of the Inspector of Buildings they may be accepted as conclusive, except that the concrete mixture entering into any fireproofing or system of trussed concrete construction shall be tested for fire and water at any time when required by the Inspector. The contractor for any system of concrete floor construction after its erection shall be prepared to make the still load test prescribed in Sec. 16 as often as may be required by the Inspector.

TITLE XVI.

FIREPROOF BUILDINGS.

All subjects under this Title relate principally to the interior construction of fireproof buildings or buildings of the I, II and III classes, as defined under Title II.

Sec. 1. Materials Prohibited—

No plaster of paris, or sulphate of lime, and no coal, sawdust, coke, coke breese, or unconsumed or partly consumed material, inclusive of cinders, containing any of the compounds of carbon and subject to combustion, disintegration or distillation at 1,500 degrees Fahr., shall enter into any material used for the construction of the floors, partitions, covering for structural members or in any part of fireproof buildings of the I and II classes, except in the form of wall plastering, or as a gauge for mortar. No quick lime shall be used in the composition of the material used in the construction of walls or floors except in combination with Portland cement when used for mortar in setting fireproof material with a trowel. See also Sec. 4, Title X.

Sec. 2. Materials Permissible—

In buildings of Classes I and II, only brick, porous or semi-porous terra cotta, shall be used for floor and roof construction and for column and girder or other metal covering as prescribed in Title XV.

"Arched" concrete and "Lintel" and "Slab" concrete in short spans (see Titles X and XV), shall also be permissible in buildings of these classes; provided that no encasing material of any metal structural member is less than two (2) inches, as prescribed in Sections 9 and 11, Title XV.

Sec. 3. Buildings of the I Class—

No wood or other combustible material shall be used in any of the partitions, furring, ceiling, or in any part of a building of the I class; all floor surfaces shall be of stone, cement, rock asphalt, tiling or similar incombustible material. All outside and inside window frames and sash shall be of metal or of wood covered with metal. Wired glass shall be used for all interior or exterior glazing except in fronts facing streets or other open spaces more than thirty (30) feet in width, or prism glass 4x4 inches may be used in all inside vertical openings and the upper half of all exterior windows. The decorations and trim shall be entirely of incombustible material.

Sec. 4. Buildings of the II Class—

Buildings of the II class, as defined under Section 1, Title II, shall have no wood or other combustible material in the finish of the ceilings of any part of the building or skylights, or any pent-house or bulkhead upon the roof, and wired glass need not be required except in inside hall doors and partitions.

Sec. 5. Column Covering—

In the case of buildings of the I class, the coverings for columns shall be, if of brick, not less than eight (8) inches thick in the basement and four (4) inches above the first floor of beams; if of hollow semi-porous terra cotta these coverings shall be in two (2) consecutive layers, each not less than two (2) inches thick.

If fireproof covering is made of porous terra cotta it shall consist of at least two (2) layers not less than two (2) inches thick each, if hollow, and not less than one and one-quarter (1 1-4) inches thick each if solid. Whether porous or semi-porous terra cotta is used, the two (2) consecutive layers shall be so applied that neither the vertical nor horizontal joints in the same shall be opposite each other, and each course shall be so anchored and bonded within itself as to form an independent and stable structure; but nothing in this section shall be so construed as to prohibit the use of two (2) inches of concrete or hollow dense tile for the first layer; provided, that the outer layer is of porous or semi-porous terra cotta as above prescribed.

In all cases there shall be on the outside of the tiles a covering of plastering with any cement "which is established as a standard cement" or of other mortar of equal hardness and efficiency when set. See Title XIV.

Sec. 6. Protective Sheathing—

In places where there is trucking or wheeling or other handling of packages of any kind, the lower five (5) feet of the fireproofing of such pillars shall be encased in a protective covering either of sheet iron or oak plank, which covering shall be kept continually in good repair.

Sec. 7. Single Thick Covering—

In buildings belonging to classes II and III, the fireproof covering for internal columns shall be made the same as specified for buildings of Class I, excepting that only one (1) covering of terra cotta and not less than four (4) inches if covering is of brick, may be used. In buildings of the III class the dense tile or concrete covering shall not be less than two (2) inches thick.

Sec. 8. Beams and Girders—

The fireproof covering of iron or steel beams and girders in buildings of Classes I, II and III shall be effected with either of the materials before specified. If hollow tiles are used the tiles shall be set close to the metal to be protected, and there shall be an air space within the tile of at least three-quarters (3-4) of an inch. If porous terra cotta is used it shall be at least two (2) inches thick if hollow, and at least one and one-quarter (1 1-4) inches thick if solid.

Where concrete fireproof construction is permissible, the covering for columns, beams and girders shall never be less than two (2) inches in thickness, irrespective of the plastering.

Sec. 9. Exterior Beams and Girders—

The exposed sides of the iron or steel girders in the enclosing walls of buildings of the II and III classes shall be covered in with incombustible material not less than four (4) inches in thickness on the outer surfaces and tied and bonded to the column coverings, but the extreme outer edge of the flanges of beams, plates or angles connected to the beams may project to within one and three-quarters (1 3-4) inches of the outside surface of the brick casing. The inside surfaces of girders may be similarly covered with incombustible material, or if projecting inside of the wall they shall be protected by terra cotta, concrete, or other fireproof material.

Sec. 10. Buildings of the III Class—

For the purpose of this Code all buildings in which "dense" tile is used for fireproof construction and coverings, as defined in this and the previous Title, shall be classed as buildings of the III class, and shall be subject to all the rules and regulations of this Class.

Sec. 11. Concrete Protection—

When concrete construction as defined in Sec. 10 (b) and (c) of Title X is used, in whole or in part, in the floor, roof and fireproof construction, all concrete shall extend at least one (1) inch below the reinforcing members, and in all cases the exposed steel structural members shall be protected the same thickness as required for buildings of the I and II Classes. Floors, windows, doors and inside finish may be of wood, except ceilings and skylights shall be the same as prescribed in Sec. 4.

Sec. 12. Partitions, Etc.—

No constructive woodwork or other inflammable materials shall be used in any of the partitions of fireproof buildings, excepting that in buildings of the II and III classes and their frames, the trims, the casings, the interior finish when filled solid at the back with fireproof material, and the floor boards and sleepers not less than one and three-quarters (1 3-4) inches spaced sixteen (16) inches on centers directly thereunder, may be of wood, but the space between the sleepers shall be solidly filled with fireproof materials, and extend up to the underside of the floor boards. See also Sec. 7, Title XV.

Sec. 13. Hall and Permanent Partitions—

All hall partitions or permanent partitions between rooms in fireproof buildings shall be built of fireproof and waterproof material and shall not be started on wood sills, nor on wood floor boards, but be built upon the fireproof construction of the floor and extend to the fireproof beam filling above. The tops of all doors and window openings in such partitions shall be at least twelve (12) inches below the ceiling line.

Sec. 14. Change of Classification—

If any building of the II or III Class shall have dead walls along party lines, and have its public hall and corridor floors and glazing in partitions finished as prescribed for buildings of the I Class, and all exterior windows opening on courts or courtways adjoining other buildings less than thirty (30) feet distant, or any court of its own not less than twenty (20) feet wide, made of metal and wired glass and the column covering is doubled as in buildings of the I Class, such building may be carried up to the height prescribed for the next class above.

Any building of the III class in which none of the prohibited materials prescribed in Sec. 1 are used in its construction, and having its interior and exterior finished as prescribed for buildings of the I class in Secs. 3 and 5, may be carried up to the height with the same number of stories as prescribed for a building of the II class.

Sec. 15. Trussed Concrete Buildings—

When a building of the III class is to be constructed with "trussed" concrete floor system in any story (See Secs. 19 and 21, Title X), its area, height and number of stories shall not exceed the limits established for V class buildings, and if such building is to be constructed with a "trussed" concrete frame (see Secs. 20 and 21, Title X), its area, height and number of stories shall not exceed the limits of a VI class building as established in this Code.

Sec. 16. Partially Fireproof—

When a fireproof building has but one (1) inch of fireproof covering on the bottom flanges of its beams and girders or less than two (2) inches for its column coverings, it shall be deemed a building of the IV class, and if such buildings have no fireproof protection on the columns or metal beams it shall be deemed a building of the VI class, and each shall be subject to the rules and regulations of their respective changed classification.

Sec. 17. Composite Buildings—

In cases where a better class of construction is used in the lower part of any building, the height and area of such building shall be limited according to the classification of the uppermost story or roof.

Sec. 18. Workshops and Sheds—

Large work and machine shops or one (1) story sheds in which incombustible material is worked or stored, whether the structural metallic parts are protected or not, may be considered buildings of the II class. If such building has a “mill’ constructed Mezzanine floor and “mill” constructed roof on metal girder and truss work, it shall be considered a building of the III class.

Sec. 19. Fireproof Ducts for Pipes—

In buildings under this Title, all pipes, conduits, mains, wiring and conveyances for conducting heat, light, power and water, when enclosed, shall be encased in separate fireproof ducts and shall not be enclosed in the fireproofing surrounding any column, girder or beam of steel or iron, except as modified in Sec. 12 of Title XII, in which case all piping shall be fastened rigidly, with due allowance for expansion, at a sufficient number of points to the columns between each floor to prevent buckling of pipes and consequent destruction of fireproofing in the event of fire.

TITLE XVII.

NON-FIREPROOF BUILDINGS.

The subjects under this Title relate principally to the interior construction of all buildings of the IV, V and VI classes, i. e., all “semi-fireproof,” “mill” and “ordinary” constructed buildings as defined under Title II.

Sec. 1. Semi-Fireproof or IV Class Buildings—

The term “semi-fireproof building” shall apply exclusively to all buildings in which the “mill” constructed floors or columns or the structural members which carry the loads and strains which come upon the floors and roof thereof, are entirely enveloped in incombustible material.

Sec. 2. Fire Protection—

All iron and steel structural members in IV class buildings shall be protected against fire as specified under the head of "Fireproof Construction," but a single thickness of any standard plaster, as prescribed in Sec. 2, Title XIV, applied on metallic or wire lath, shall be considered sufficient protection for all wooden posts, girders, beams, joists and the under side of the heavy floors and roof forming the ceilings. This coating of metallic lath and plaster shall, in all cases, follow the contour of the girders, beams and joists, and shall be applied directly to the ceiling without furring, so that there shall be no air spaces between any woodwork and the plastering. False beams may be inserted where required to form panels for ornamental purposes, provided, that the plastering is continuous and the false work is properly fire stopped.

Sec. 3. IV Class Partitions and Elevator Enclosures—

All hall partitions and all elevator enclosures in buildings of the IV class shall be made entirely of incombustible material. The use of wood furring or of stud partitions shall not be allowed in buildings of this class. Subdividing partitions may be the same as prescribed in Sec. 8.

Sec. 4. Flat Ceilings—

In buildings of the IV class if the wooden joists are not less than three (3) inches thick, containing not less than thirty (30) square inches of sectional area, and spaced not over sixteen (16) inches on centers, in a panel of the floor system, and are hung between the wooden girders with iron straps flat with the top of girders or supported on the flanges of iron girders with upper flange not more than one-half (1-2) an inch below the top of same, and the first thickness of one and five-eighths (1 5-8) inch surfaced and matched flooring, provided under Sec. 7, is laid diagonally over the top and all intermediate spaces fire stopped and the furring and filling between the topmost and lower thickness of floors and roof is made deep enough to take all conduits and pipes, then the ceiling may be finished flat if made of terra cotta or of metal lath and incombustible plaster attached directly to the bottom of the joists.

Sec. 5. "Mill Constructed" or Buildings of the V Class—

The term "Mill Construction" shall apply to all buildings in which all the wooden posts, caps, girders, beams or joists carrying a floor or roof shall be of solid pieces.

Sec 6. Dimensions of Timbers—

The following are the minimum permissible sectional areas of posts and girders: Posts in the topmost story, sixty-four (64) square inches, and one hundred (100) square inches in the next story below; for floor joists or beams, forty-eight (48) square inches, and sixty (60) square inches if the flooring is carried directly by girders or beams between columns and supports. The dimensions herein given are commercial sizes, and if surfaced, such surfacing shall not exceed one-eighth (1-8) of an inch in depth on each surface, provided all conditions of stability prescribed in Title V are complied with.

All girders and beams containing less than one hundred and sixty (160) square inches shall be in solid pieces and when two (2) or more beams are coupled they shall be framed solidly with bolts spaced not exceeding four (4) times the depth of beams on centers.

Sec. 7. Floors—

The floors in buildings of the IV and V classes shall be of either of the following thicknesses:

If of solid timber, not less than three and three-quarters (3 3-4) inches, or two and three-quarters (2 3-4) inches when covered with seven-eighths (7-8) inch flooring, or two and three-eighths (2 3-8) splined and covered with two (2) thicknesses of felt, both of asbestos, or one of asbestos and one of waterproof felt covered with seven-eighths (7-8) inch flooring, or one and five-eighths (1 5-8) in surfaced matched or splined with two (2) thicknesses of felt, as previously provided, furred up with strips not less than one and three-quarters (1 3-4) inches in width and not less than one and three-quarters (1 3-4) inches thick and the spaces between strips filled in with mineral wool or mortar, concrete or other incombustible filling to the underside of the seven-eighths (7-8) inch flooring.

When buildings of this class have but one (1) thickness of one and five-eighths (1 5-8) inch dressed plank flooring or wooden cap or bolster girder supports in every story, such building shall not exceed the area, height and number of stories of a VI class building as prescribed in this Code.

Sec. 8. V Class Partitions and Elevator Enclosures—

Elevator enclosures in buildings of the V class shall be made entirely of incombustible material. If iron or steel columns, girders or beams are used in buildings of this class, they shall be protected as provided for fireproof buildings or buildings of the IV class. A covering of terra cotta one (1) inch thick, or a single thickness of incombustible plaster on metal or wire lath will be permissible as a fireprofing in buildings of this class. Wooden posts, girders and floor beams need not be protected by fireproof covering. Three (3) inch splined wood partitions or incombustible stud partitions may be used in buildings of this class, but the use of wood furring and wooden lath is prohibited.

Sec. 9. Cast Iron or Steel Columns in "Mill" Construction—

At each line of floor or roof beams where cast iron columns are used in "Mill" construction, lateral connections between the ends of the beams and girders shall be made by passing wrought iron or steel straps across or through the cast iron columns in such manner as to rigidly connect the beams and girders with each other in the direction of their length. These straps shall be bolted through the wooden beams or girders. Steel or wrought iron columns shall be similarly secured.

Sec. 10. Iron Caps—

If wooden posts are used in "Mill" construction they shall have cast or wrought iron or steel caps so constructed as to form a base for the next post above, except as modified in Sec. 8, Title XIII. The girders must be properly bolted to cap and if there is no provision for such bolting within the cap, additional wrought iron straps shall be used extending from one girder to another, and bolted through each girder.

Sec. 11. "Ordinary" or VI Class Buildings—

All buildings of the VI class or of "ordinary" construction shall have all wooden columns and caps framed solid, but no girder shall be built up of less than one and three-quarters (1 3-4) inch stock when surfaced, and no such built up girder shall have joints between two (2) supports.

Sec. 12. Subdivisions of Floors—

The interior of buildings of the VI class may be subdivided and constructed of wood, as provided in Title XIII, except the elevator enclosures, which shall be the same as prescribed in Sec. 8 of this Title for "mill" constructed buildings. All party and division walls shall be of brick, as prescribed under their respective Titles.

Sec. 13. Modifications of VI Class Buildings—

(a) Buildings of the VI class which do not exceed three (3) stories of forty (40) feet in height, having a flat or gable roof, may have their gables and two (2) stories of their inner and outer court enclosing walls made of sheathed frame work covered with sheet metal, slate or other incombustible covering, provided, that the total of such gable and court enclosures does not exceed twenty-five (25) per cent of the total length or total area of the exterior enclosing walls, and provided further, that no interior or line court shall be so enclosed unless separated from the adjoining lot by a "dead" brick wall.

(b) Buildings of this class which have but one (1) thickness of seven-eighths (7-8) or one and one-eighth (1 1-8) inch flooring, or have their ceilings unplastered, shall not exceed the height and number of stories of a VII class building.

(c) No wooden girder or lintel of over four (4) foot span shall be used to support any brick wall or apron in buildings of this class except that when a one (1) story VI class addition to the front of a VII class building is made as prescribed in Title XXXII, wooden girders, with wooden posts spaced not exceeding ten (10) feet on centers, may be used provided the pediment above the girder is not over five (5) feet high and not over one and one-half (1 1-2) brick thick.

(d) Buildings of this class with properly fire-stopped double floors, as prescribed in Sec. 6, Title XXXIV, having all iron work protected and all ceilings, partitions and furring plastered with one (1) thickness of seven-eighths (7-8) inch metal or wire lath as prescribed in Sec. 12, Title XV. may be carried up to the height of five (5) stories and a basement but not over seventy (70) feet.

TITLE XVIII.

FRAME BUILDINGS.

Sec. 1. Buildings of the VII Class—

The subjects under this Title relate to buildings of the VII class, or frame buildings as defined in Title II, in the "urban" district. For frame buildings within the fire limits, see Title XXXII.

Sec. 2. Size of Frame Buildings—

It shall not be lawful to erect any frame building wider than forty (40) and deeper than seventy (70) feet, or its equivalent in square feet, on an interior lot, unless the interior is subdivided by fire walls, as prescribed in Sec. 11, and also in Title XXX. For other dimensions of frame buildings, see Table G, under the aforesaid Title.

Sec. 3. Spaces Between Frame Buildings—

The open spaces, lawns, courts or yards adjoining or between frame buildings shall be governed by Title XXIX, unless otherwise prescribed in this Title.

If more than one (1) frame building is built in the direction of the depth of any one lot, there shall be left a courtyard of not less than ten (10) feet between them at the nearest points of any cornice, bay, porch, or any other projection.

When two (2) or more frame buildings are erected on the same lot and fronting on any street, there shall be not less than three (3) feet of clear space or courtway between the nearest cornice or coping lines of each of said buildings, and the building next adjoining on either side. If the adjoining building is over twenty-five (25) feet high, the distance apart, or court, shall be not less than four (4) feet, and there shall be no projections from any story of any building into this space, provided that if such buildings are longer than forty (40) feet, the clear space between shall be increased by double the amounts prescribed for buildings along lot lines in Sec. 4, that is, twenty-four (24) and twelve (12) inches respectively, until a width of ten (10) feet is reached after which the distance may remain constant, unless brick walls, as prescribed in the aforesaid section, obtain. If on the rear of an interior lot there is any wooden stable, workshop or factory, then the clear space shall be not less than thirty (30) feet unless otherwise provided in Title XXXIII.

Sec. 4. Along Lot Lines—

Frame or ironclad or other veneered frame buildings shall not be built nearer than the following distances to any line of the lot or parcel of ground upon which they are built, street and alley lines excepted, unless an enclosing brick wall conforming to the requirements of this Code be built, in which case the building may extend to the lot line if not in conflict with any other provisions of this Code, viz.:

If such building does not exceed forty (40) feet in length, eighteen (18) inches if not over twenty-five (25) feet in height, and twenty-four (24) inches if over twenty-five (25) feet high, to which not less than twelve (12) inches shall be added for every ten (10) foot increase in length, or fraction thereof, over forty (40) feet, except that for buildings of the Fourth grade the increment of increase may be six (6) inches for every ten (10) foot interval as herein prescribed.

Sec. 5. Windows in Courts—

No window in any frame building shall be built to open into any court, courtway or space less than three (3) feet wide, and there shall be at least ten (10) feet between all windows, opening upon opposite sides into a court or courtway.

Sec. 6. Raising Frame Buildings—

A frame building may be raised for the purpose of erecting a basement under the same, but the principal floor of such frame building shall not be raised to a higher level than six (6) feet above the sidewalk for two (2) story buildings, or twelve (12) feet high above the sidewalk or adjoining grade for one (1) story frame buildings. The walls enclosing such basement shall be of masonry and shall not be less than one and one-half (1 1-2) brick thick, resting upon a foundation wall running from the grade down, and not less than two (2) bricks thick, if of brick. See Foundations, Title VII.

Sec. 7. Limit of Height—

No frame buildings shall be raised for the purpose of constructing a basement under the same, to a greater height to the top of its roof than that given as the maximum height for frame buildings under Title III. It is also provided that after there has been a basement story constructed under any frame building such frame building shall not be raised again for any purpose whatsoever.

No balloon-framed building with unfinished interior shall exceed two (2) stories or twenty-five (25) feet in height, nor shall such a building be raised for any purpose.

Sec. 8. Buildings of the Fourth Grade—

Double dwellings or blocks of dwellings may be built to contain accommodations for more than two (2) families, and each part of such building containing accommodations for two (2) families shall be separated from the next part on either side by a division wall built as provided in the following sections.

Sec. 9. Stud Division Wall—

The division wall required by Section 8 for a double house or division between two houses in a row shall be built of two (2) by five (5) inch studding, with the spaces between studding filled full of mineral wool or any other approved fireproofing material, from the brick wall in basement up to and close under the roof boards, the fireproofing to be scured in place between joists by wood blocking properly secured, and these walls shall be plastered on each side on metallic lath with a hard plaster.

Sec. 10. Brick Division Walls—

If brick is used for fireproofing between studding, the division walls may be plastered on wood lath with lime mortar. All such walls shall be supported on at least a one (1) brick thick wall in the basement, which must be built from the cellar floor to the top of the ground floor joists.

Sec. 11. Fire Walls—

In the erection of wooden buildings in blocks of two (2) or more houses, to be occupied for dwelling or tenement purposes, the said buildings shall have brick division or party walls not less than one (1) brick thick between each pair of houses, but not exceeding forty (40) feet on centers, said walls to be carried up and coped at least eight (8) inches above the rake of the roof, whether the said roof be flat, pitched or mansard, and no part of a wooden roof shall extend through or over any such division wall. Any opening in a fire or party brick wall shall be closed by a fireproof door.

Sec. 12. Chimneys in Party Walls—

Chimneys in party walls or serving two (2) rooms on the same floor may be built in the walls or partitions; elsewhere they shall be built inside of the frame, except in the case of ornamental or exposed chimneys.

TITLE XIX.

CHIMNEYS, FLUES AND STACKS.

Sec. 1. Number—

Each dwelling, tenement or apartment, or any room in which cooking is done, shall have at least one chimney built as hereinafter prescribed.

Sec. 2. Construction of Chimneys and Flues—

Chimneys shall be built of brick, stone or similar fireproof material, and in no case shall a chimney rest upon a flooring of wood or timber construction. Every chimney not forming part of a wall, shall rest upon the ground or other sufficient fireproof foundation. Brickwork of all flues, without reference to the purpose for which they may be intended, must be laid with solid joints, thoroughly filled with mortar or grouted and the joints struck flush on the inside and plastered on the outside where they pass through floors and partitions and between the ceiling joists and rafters, and no opening between the joists shall be made or left for any purpose.

Wooden floor beams, studs and other woodwork must be framed around the flues at each and every story and be not less than one (1) inch, except trimmers which shall be two (2) inches distant therefrom if flue is lined, or two (2) and three (3) inches respectively when the flue lining is omitted.

Sec. 3. Foundations of Chimneys—

The foundations of chimneys, flues and stacks, whether inside or outside of buildings, or whether connected with the same or isolated, shall be designed and built in conformity with the provisions relating to foundations of buildings in Title VII.

When the breast of a chimney or fireplace projects more than one (1) brick it shall be started and built on the same line from the foundation.

Sec. 4. Corbelling out of Chimneys—

Brick chimneys or flues projecting one (1) brick or less and not starting from the foundation wall shall be securely built into the brickwork of the walls to which they are hung and shall be supported by courses of brick corbeled out from the main wall, provided, that no corbeled chimney or breast shall project more than two-thirds (2-3) the thickness of the wall, nor be hung from a wall less than one and one-half (1 1-2) brick thick.

Flues shall not be raked or corbeled over where they pass between floors, rafters and partitions. All racking or raking of flues must occur in the breast of the chimney and must be surrounded with walls at least one (1) brick thick.

Corbeled flues will not be allowed where the story and building heights exceed the limits of table A of Title VIII.

Sec. 5. Walling of Flues—

No flue of a greater area than sixty-four (64) square inches shall be without flue linings if used for stoves or other heaters in buildings over two (2) stories or twenty-five (25) feet in height.

Chimneys and flues less than two hundred and sixty (260) square inches in area in all buildings shall have walls at least one (1) brick thick, if of brick, unless terra cotta or fire clay flue linings are used for their full height, or if used only for vent flues in either of which cases one-half (1-2) brick of brickwork may be omitted. If built of material other than brick they shall have walls at least eight (8) inches thick, and shall have an additional lining of brickwork or terra cotta or fire clay flue lining. Standard fire clay flue linings may be used for flues of from sixty-four (64) to five hundred and seventy-six (576) square inches in clear area. The walls back of flues in party walls and walls between flues in adjoining buildings shall in no case be less than one (1) brick, and between each flue in a group o flues one-half (1-2) brick in thickness; but in all cases the su rounding walls of chimneys of any size shall be so proportione that the brickwork in the same will not be subjected to strai greater than the maximum strains for the brickwork fixed i Title V.

Sec. 6. Hollow Chimney Walls—

All brick smoke flues, chimneys, or stacks having a greate area than five hundred and seventy-six (576) square inches sha have hollow walls in which the combined thickness of the en closing walls shall be at least one and one-half (1 1-2) brick an the air space between the inner and outer wall shall not be les than four (4) inches if straight and not less than two (2) inche at its narrowest neck if the outer shell is pitched.

Sec. 7. Fire Brick Lining and Inlets—

All masonry flues shall be provided with a fire clay smoke pipe inlet. Where they are built all of brick the inner ring of one-half (1-2) brick of smoke inlet, together with the interior facing of the flue for a distance of not less than nine (9) times its internal diameter or the square root of its sectional area in height, beginning not less than two (2) feet below the bottom of the inlet shall be made of fire brick laid in fire clay. All metallic stacks as per Section 11, shall be similarly lined. All unused smoke inlets in chimneys shall be protected with metal covers.

Sec. 8. Topping Out—

All smoke flues, chimneys or stacks shall be topped out with brick, stone, terra cotta or cast iron, properly anchored, and if such chimney, flue or stack is liable to emit sparks, or if shavings or sawdust is used as fuel, or if used as a cupola it shall be covered over on top with a heavy wire netting.

Sec. 9. Area of Chimneys—

No chimney flue shall be less than eight (8) inches by eight (8) inches when used as a smoke flue, provided, that flues for use of gas stoves or gas grates may be of less dimension if fire clay tile flue linings are used, but no such flue shall be less than four (4) inches clear diameter if circular, if polygonal the polygon shall be circumscribed. Furnace or laundry dryer stove flues shall be no less than eight (8) by twelve (12) inches.

Nothing in this section shall be so construed as to permit the use of any flue lining or crock pipe as a smoke flue without being walled in with brick or other fireproof material as prescribed in Sec. 5.

Sec. 10. Height of Chimneys—

The height of all chimneys having a flue larger than ninety-six (96) square inches shall be at least thirty-three and one-third (33 1-3) times the average diameter of flue, or the square root of its superficial area, provided, that smoke or other flues carrying off the products of combustion of boiler heating and power plants shall not be less than fifty-five (55) feet high in the

"Urban" district, and eighty (80) feet in the Fire districts; nor shall the top of any chimney or ventilating flue be lower than five (5) feet above the top of the roof of the building of which it is a part, if such roof is a flat roof, nor lower than two (2) feet above the ridge, and three (3) feet if such chimney is within ten (10) feet of the ridge, if such roof is pitched, nor shall the topping out of any chimney, flue or stack, except when used for ventilating purposes, and as previously provided, be less than five (5) times its internal diameter or the square root of its sectional area above the roof, or less than four (4) times its internal diameter or the square root of its sectional area above the highest part of the roof of any building within fifty (50) feet of such chimney, cupola, stack or flue.

The top of all smoke flues, chimneys or stacks within one hundred (100) feet of any viaduct or bridge shall be at least twenty-five (25) above the roadway of same.

Sec. 11. Metallic Chimneys—

In business or manufacturing buildings, chimneys or smoke stacks built of iron or steel shall be thorougly anchored or guyed but shall not be used in such manner as to pass through the floors or roofs of the same, unless such metallic smoke pipes or chimneys are enclosed in brick or tile walls with a ventilated air space between the enclosing walls and the pipe from bottom to top inside of said building. Where such metallic chimney or smoke pipe passes through the roof only, it shall be separated from the woodwork of such roof by at least twelve (12) inches of incombustible material. No woodwork shall be placed within a radius of two (2) feet of any metallic cupola.

Sec. 12. Location of External Chimneys—

Chimneys may be built outside of the walls of existing buildings (but not in such a manner as to encroach upon any street or alley) and shall be built as follows:

(a) HOLLOW TILE.—If at least one (1) side of such chimney abuts entirely upon the wall of an existing building, and the chimney is throughout its entire length securely and firmly anchored to the walls of said existing building the wall of such chimney may be built of hollow tiles, in which case, however, it shall have a cast iron base, lined with fire brick and extending to a height of at least ten (10) feet above the street or alley grade.

(b) IRON OR STEEL.—Such external chimney may also be built of rolled steel or iron of not less than one-fourth (1-4) inch thick and lined with fire bricks, laid in fire clay, for at least forty (40) feet above street or alley grade, or it may be built throughout its entire height of cast iron, in which case the first ten (10) feet above street or alley grade shall be lined with fire brick, laid in fire clay.

Sec. 13. Isolated Stacks—Brick—

All attached or isolated chimneys shall be so designed and constructed that the strain upon any part thereof, due to the weight of the stack itself and to the wind pressure, shall never exceed the limits, fixed in Title V, and if built of brick or masonry they shall also have hollow walls as provided in Title IX.

Sec. 14. Isolated Stacks—Metal—

Wrought iron or steel stacks shall have iron or steel base plates resting on foundations of brick, stone or concrete. Iron rods shall be built into the foundation for the purpose of fastening the stack. If not designed to be entirely safe when free standing they shall be braced at every fifty (50) feet in height from at least three (3) sides by means of steel wire ropes or metal rods of sufficient strength.

Rolled iron or steel used in building such stack shall not be less than three-sixteenths (3-16) of an inch thick. All stacks containing twelve hundred (1200) square inches or over in area, shall be lined with fire brick, laid in fire clay, to a height as prescribed in Section 7.

Sec. 15. Cleaning-Out Doors and Ladders—

Every chimney shall be provided with a cleaning-out door at its base and an iron ladder either on the inside or outside of the chimney to the top of same when the height of chimney is more than twenty (20) feet above the roof.

TITLE XX.

HEATING.

The subjects under this title include all hearths, pipes and heating apparatus and their enclosures within a building.

Sec. 1. Flue Connections—

All boilers, furnaces, fire places, ovens and all other heating apparatus mentioned under this Title shall be properly connected with a flue chimney or stack as direct and within the shortest distance possible.

This shall include all permanent or temporary heat generators which are used in the erection of a building, and no such heat generator shall hereafter be placed upon the floor or in close proximity to any building, which allows the products of combustion to escape directly into the air within twenty (20) feet of any ceiling without being connected with some flue as herein prescribed.

Sec. 2. Hearths—

All hearths of fire places, irrespective of the fuel used, shall be supported by trimmer arches of brick, stone, iron or concrete, or be of single stone at least six (6) inches thick, built into the chimney and supported by iron beams, one end of which shall be securely built into the masonry of the chimney or an adjoining wall, or which shall otherwise rest upon incombustible support.

The brick jambs of every fire place or grate opening, independent of the lining, shall be at least one (1) brick wide each, and the back of such openings shall be at least one (1) brick thick. All hearths and trimmer arches shall be at least twelve (12) inches longer on each side than the width of such openings, and at least twenty (20) inches wide in front of the chimney breast. Brick work over fire places and grate openings shall be supported by iron bars or brick arches.

The wooden covering (centering) in all buildings except those of the VI and VII classes under trimmer arches to be removed before plastering the ceiling underneath.

Sec. 3. Boilers—Brick Set—

No brick-set boiler for the generation of hot water or steam for heating or power or any portable power boiler or engine over ten (10) horse power, shall be placed on any wood or combustible floor or beams.

Sec. 4. Boilers—Portable—

Wood or combustible floors and beams under and not less than three (3) feet in front and one (1) foot on the sides of all portable boilers shall be protected by a suitable brick foundation of not less than two (2) courses of brick well laid in mortar on sheet iron; the said sheet iron shall extend at least twenty-four (24) inches outside of the foundation at the sides and front. Bearing lines of bricks, laid on the flat, with air spaces between them, shall be placed on the foundation to support a cast-iron ash pan of suitable thickness, on which the base of the boiler shall be placed, and shall have a flange, turned up in the front and on the sides, four (4) inches high; said pan shall be in width not less than the base of the boiler, and shall extend at least two (2) feet in front of it. If a boiler is supported on a cast-iron base with the bottom of the required thickness for an ash pan, and is placed on bearing lines of brick in the same manner as specified for an ash pan, then an ash pan shall be placed in front of the said base and shall not be required to extend under it. All lath and plaster and wood ceilings and beams over and up to a distance of not less than four (4) feet in front of all boilers shall be shielded with metal. The distance from the top of the boiler to said shield shall be not less than twelve (12) inches. No combustible partition shall be within four (4) feet of the sides and back and six (6) feet from the front of any boiler, unless said partition shall be covered with metal to the height of at least three (3) feet above the floor, and shall extend from the end or back of the boiler to at least five (5) feet in front of it; then the distance shall be not less than two (2) feet from the sides and five (5) feet from the front of the boiler.

Sec. 5. Furnaces—Brick Set—

All brick set hot-air furnaces shall have two (2) covers, with an air space of at least two (2) inches between them; the inner cover of the hot-air chamber shall be either a brick arch or two (2) courses of brick laid on galvanized iron or tin, supported on iron bars; the outside cover, which is the top of the furnace, shall be made of brick or metal supported on iron bars, and so constructed as to be perfectly tight, and shall be not less than four (4) inches below any combustible ceiling or floor beams.

A single concave iron cover may be used if rigidly suppported on the margin and filled with sand to a depth of at least eight (8) inches in the center and two (2) inches at the edges on all sides.

The walls of the furnace shall be built hollow in the following manner: One (1) inner and one (1) outer wall, each four (4) inches in thickness, properly bonded together with an air space of not less than two (2) inches between them. All brick set furnaces shall be at least four (4) inches from all woodwork.

Sec. 6. Furnaces—Portable—

All portable hot-air furnaces shall have a double cased jacket of not less than No. 26 iron from the base to the top of casting, with an air space of at least one (1) inch between, and shall be placed at least two (2) feet from any wood or combustible partition or ceiling, unless the partitions and ceiling are properly protected by a metal shield when the distance shall not be less than one (1) foot. Wood floors under all portable furnaces shall be protected by two (2) courses of brick work, well laid in mortar on sheet iron. Said brickwork shall extend at least two (2) feet beyond the furnace in front of the ash pan.

Sec. 7. Cold Air Boxes—

The cold air boxes of all hot-air furnaces shall be made of metal, brick or other incombustible material, for a distance of at least ten (10) feet from the furnace.

Sec. 8. Ranges—

Where a kitchen range is placed from twelve (12) to six (6) inches from a wood stud partition, the said partition shall be shielded with metal from the floor to the height of not less than three (3) feet higher than the range; if the range is less than six (6) inches from the partition, then the studs shall be cut away and framed three (3) feet higher and one (1) foot wider than the range, and filled into the face of the said stud partition with brick or fireproof blocks, with plaster thereon. All ranges on wood or combustible floors and beams that are not supported on legs and have ash pans three (3) inches or more above their base, shall be set on suitable brick foundations consisting of not less than two (2) courses of brick well laid in mortar on sheet iron, except small ranges that have ash pans three (3) inches or more above their base, which shall be placed on at least one (1) course of brick work on sheet iron or cement. No range shall be placed against a furred wall. All lath and plaster or wood ceilings over all large ranges, and ranges in hotels and restaurants, shall be guarded by metal hoods placed at least nine (9) inches below the ceiling. A ventilating pipe connected with a hood over a range shall be at least nine (9) inches from all lath and plaster or wood-work and shielded. If the pipe is less than nine (9) inches from lath and plaster and woodwork, then the pipe shall be covered with one-half (1-2) inch of asbestos plaster or other incombustible covering. No ventilating pipe connected with a hood over a range shall pass through any floor unless protected as prescribed in Sec. 13 for smoke pipes.

Sec. 9. Laundry, Cooking and Heating Stoves—

Laundry stoves on wood or combustible floors shall have a course of brick, laid on metal, on the floor under and extended twenty-four (24) inches on all sides of them. All stoves for cooking and heating purposes, shall be properly supported on iron legs resting on the floor, three (3) feet from all lath and plaster or woodwork; if the lath and plaster or woodwork is properly protected by a metal shield, then the distance shall be not less than eighteen (18) inches. A metal shield shall be placed under and twelve (12) inches in front of the ash pan of all stoves that are placed on wood floors.

Sec. 10. Gas Stoves and Ranges—

All low gas stoves shall be placed on iron stands, or the burners shall be at least six (6) inches above the base of the stoves, and metal guard plates placed four (4) inches below the burners, and all woodwork under them shall be covered with metal. Open gas stoves shall be isolated in the same manner as provided for stoves in Sec. 9. Gas ranges, if properly air insulated within themselves, shall be placed one (1) foot distant from all unprotected woodwork or plastered stud partitions.

The use of gas burners or heaters, located in a floor system under an open register, or on the outside of the firepot of any hot air furnace, in which the products of combustion are allowed to escape into a room, is hereby prohibited, and all such burners or heaters so located shall be removed within thirty (30) days after the passage of this Code.

For gasfitting and fixtures see Title XXXIX.

Sec. 11. Bake Ovens—

Bake ovens are to rest on solid foundations or metal beams and columns, the sides and ends shall be at least two (2) feet from any woodwork and the crown of arch at least four (4) feet from ceilings that have wood joists. The hearth in front of bake oven shall extend at least three and one-half (3 1-2) feet beyond the face of said oven, otherwise all woodwork shall be protected as prescribed for boilers in Sec. 4.

Sec. 12. Core and Annealing Ovens—

All core and annealing ovens, or any portable smelting furnace, shall be set on incombustible hearths with an air space of at least five (5) inches between hearths and the bottoms of such ovens or furnaces. The construction of hearths and protection of surrounding woodwork shall be the same as prescribed in Sec. 4 for portable boilers.

Sec. 13. Smoke Pipes—

Where smoke pipes pass through a wood or plastered stud partition, or furred wall, or floor, they shall be surrounded either by a body of hard, incombustible material, measuring at least four (4) inches all around such smoke pipe, or they shall be surrounded by a double safety thimble of sheet metal made of two (2) concentric rings of sheet metal, at least one (1) inch apart, and the entire thimble so constructed that there will be a circulation of air between the two (2) rings forming same. No smoke pipe shall project through an external wall unless connected with a chimney or metal stack carried above the roof.

No stove or smoke pipe or any pipe conducting the products of combustion from any range, oven or heater shall be concealed in any wood partition or be placed nearer than nine (9) inches to any unprotected lath and plaster or board partition, ceiling or any woodwork.

Smoke pipes of less diameter than twelve (12) inches shall be kept at least twelve (12) inches distant from any woodwork, unless the same is properly protected by a metal shield, in which case the distance shall not be less than three (3) inches.

Smoke pipes of greater diameter than twelve (12) inches and less area than six (6) square feet, must be kept at least twenty (20) inches from any woodwork, unless the same is properly protected by a shield, in which case the distance shall not be less than eight (8) inches.

Smoke pipes of larger area than six (6) square feet shall be kept at least three (3) feet distant from any woodwork, unless the same is properly protected by a shield, in which case the distance shall not be less than sixteen (16) inches.

Sec. 14. Smoke Pipe Shields—

The metal shields prescribed in the previous section shall be at least one and one-half (1 1-2) the diameter of the pipe in width and shall have a ventilated air space of at least one (1) inch between shield and woodwork. Incombustible covering, as prescribed in Sec. 19, may be substituted for metal shields, or the smoke pipe may be covered as prescribed for steam pipe in Sec. 17.

Sec. 15—Hot Air Pipes—

Hot air pipes conveying hot air from hot air furnaces built in between timbers or joists, or through the same, or through wood floors, or in wood partitions or other combustible materials, within ten (10) inches of the same, shall be made double.

The space between the two metal pipes on all sides shall be at least three-eighths (3-8) of an inch in the clear, and the two pipes shall be kept apart from each other by the insertion of a sufficient number of metallic separators between, one for every two (2) foot of length of the pipe. Such pipes are to be made with air tight joints, without soldering them, and shall be securely fastened to the partitions at every two (2) foot interval and at least one-half (1-2) an inch from any unprotected woodwork.

No vertical hot air pipe shall be placed in a stud partition, or in a wood enclosure, unless it be at least one-half (1-2) of a diameter of the least dimension of the furnace distant in a horizontal direction from the furnace. Hot air pipes in closets shall be double, with an air space as prescribed above, and shall be placed at least one (1) inch from any unprotected woodwork. Horizontal single hot air pipes shall be placed six (6) inches below the floor beams or ceiling; if the floor beams or ceiling are plastered on metal lath or are protected by a metal shield one (1) inch therefrom, then the distance shall not be less than two (2) inches from such ceiling or shield.

When the air conveyed through pipes is heated in an ordinary hot air furnace, or in any other apparatus by direct contact of the air with the fire box, the material used for these double ducts, pipes and register boxes shall be bright tin. Where the air is heated with hot water or steam pipes, any other sheet metal, but of not less gauge than prescribed for tin, may be used for the pipes, and the use of double pipes is not obligatory.

Sec. 16. Vent Pipes—

Vent flues or ducts for the removal of foul or vitiated air in which the temperature of the air cannot exceed that of the rooms, may be constructed of iron, or other incombustible material, and shall not be placed nearer than one (1) inch to any woodwork, and no such pipe shall be used for any other purpose.

In the support or construction of such ducts, if placed in a public school room, no wood furring or other inflammable material shall be nearer than two (2) inches to said flues or ducts, and shall be covered on all sides other than those resting against brick, terra cotta, or other incombustible material, with metal lath plastered with at least two (2) heavy coats of mortar, and having at least one-half (1-2) inch air space between the flues or ducts and the lath and plaster.

Sec. 17. Steam and Hot Water Heating Pipes—

Steam and hot water heating pipes shall not be placed within two (2) inches of any timber or woodwork, unless the timber or woodwork is protected by a metal shield, then the distance shall not be less than one-half (1-2) inch. All steam or hot water heating pipes passing through floors and ceilings, or lath and plastered partitions shall be protected by a metal tube one (1) inch larger in diameter than the pipe, having a metal cap at the floor and ceiling, and where they run in a horizontal direction between the floor and the ceiling they shall be supported on iron and a metal shield shall be placed on the under side of the floor over them, and on the sides of wood beams running parallel with said pipes; or said horizontal pipes shall be covered with incombustible pipe covering at least three-quarters (3-4) of an inch thick. In no case shall lateral branches from rising lines to radiators or coils be allowed between any floor and ceiling line when such laterals cut into or through joists or beams in conflict with Sec. 5, Title XIII, and when such pipes are inaccessibly concealed, they shall be covered with incombustible material, as provided in Sections 18 and 19.

Sec. 18. Wood Casings—

All wood boxes or casings enclosing steam or hot water heating pipes, and all wood coverings to recesses in walls, in which steam or hot water heating pipes are placed, shall be lined with metal, or said pipes shall be covered with incombustible sectional pipe covering at least three-quarters (3-4) of an inch thick.

Sec. 19. Incombustible Pipe Covering—

No concealed pipe shall be covered with a covering whose non-conductivity depends upon cork, felt or any other organic matter.

All coverings of heated surfaces, or surfaces requiring to be protected from heat, and all concealed or inaccessible steam or hot water pipes, and all cold and ice water pipes, or other pipes, as prescribed in Sec. 12, Title XII, in buildings having iron frames, shall be made of standard fire resisting covering, either of Magnesium Carbonate, Calcium Carbonate with binders of asbestos fibre, or asbestos fibre and sheet coverings.

Sec. 20. Ducts for Pipes—

All ducts for hot air, steam or hot water pipes, shall be enclosed on all sides with fireproof material, and the opening through each floor shall be properly fire-stopped.

Sec. 21. Registers—

Registers located over a brick furnace shall be supported by a brick shaft built up from the cover of the hot air chamber; said shaft shall be lined with a metal pipe, and all wood beams shall be trimmed away not less than four (4) inches from it. Where a register is placed on any woodwork in connection with a metal pipe or duct, the end of the said pipe or duct shall be flanged over on the woodwork under it. All registers for hot air furnaces placed in any woodwork or combustible floors shall have stone or iron borders.

All register boxes shall be made of tin plate or galvanized iron with a flange on the top to fit the groove in the frame, the register to rest upon the same; there shall be an open space of two (2) inches on all sides of the register box, extending from the under side of the border to and through the ceiling below. The said opening shall be fitted with a tight tin or galvanized iron casing, the upper end of which shall be turned under the frame. When a register box is placed in the floor over a portable furnace, the open space on all sides of the register box shall be not less than three (3) inches. When only one register is connected with a furnace said register shall have no valve.

Register boxes, heads or collars in floors or walls shall be made double and set flush with floor or plaster line.

Sec. 22. Notice as to Heating Apparatus—

In cases where hot water, steam, hot air or other heating appliances or furnaces are hereafter placed in any building, or flues or fireplaces are changed or enlarged, due notice shall first be given to the Department of Buildings by the person or persons placing the said furnace or furnaces in said building, or by the contractor or superintendent of said work.

Sec. 23. Boiler Rooms—

No boiler for the generation of power shall be placed in any building of the VII class if of greater capacity than ten (10) H. P. Boilers of more than ten (10) and less than seventy-five (75) horse power shall not be located within eight (8) feet of any building of the VII class; if of more than seventy-five (75) and less than two hundred and fifty (250) horse power they shall be at least twenty (20) feet distant from any building of this class, and if of greater capacity than two hundred and fifty (250) horse power, they shall not be less than thirty (30) feet distant.

Boiler and fuel rooms and smoke houses which may hereafter be constructed shall be located not less than eight (8) feet distant from any other building and shall be built throughout of incombustible material. All the openings to such boiler and fuel rooms and smoke houses, if same are located within thirty (30) feet of any other building, shall have shutters and doors of metal, or wood covered with metal on both sides and edges.

Boiler and fuel rooms, when constructed in buildings shall be separately enclosed in brick walls so arranged that all openings between them and other parts of the building will be securely closed with fire doors at the end of each day's work.

Sec. 24. Drying Rooms—

All walls, ceilings and partitions enclosing drying rooms, when not made of fireproof material shall be wire lathed and plastered, or covered with metal, tile or other hard incombustible material.

Sec. 25. Heating Apparatus in Basements—

All rooms in cellars or basements containing heating boilers, furnaces, or stoves of any kind, if not constructed of fireproof material shall have all ceilings lathed and plastered with two (2) coats of brown mortar.

When heating boilers are used, that portion of the ceiling over the boiler and within a radius of four (4) feet therefrom shall be plastered on metal lath or be protected by incombustible shields.

Sec. 26. Protection against Molten Metal, Hot Liquids, Gases and Dust—

In every factory or workshop, all machinery and appliances connected therewith, also every vat, pan, or other structure with molten or hot liquids shall be placed upon an incombustible foundation or hearth, and shall be constructed in such a manner and so guarded and further protected by such ventilating ducts or pipes as to protect those employed in their operation and use, or about them.

Sec. 27. Ash Boxes and Pits—

All receptacles for ashes shall be of galvanized iron, brick or other incombustible material. When the ash pit is located in a basement or cellar it shall have brick walls at least one (1) brick in thickness, and if floor over same is of wood, such pit shall be covered over with either brick arching, stone or concrete not less than four (4) inches thick with four (4) inches of air space between the covering of pit and the ceiling, except for pits built directly under the trimmer arches of hearths.

The ash flues connected with the upper floors of any building shall be constructed and extend clear up to and above the roof the same as chimneys.

A self-closing scuppered cast iron ash door shall be placed in each story at least two (2) feet above the floor. The metal collar attached to frame shall be at least one-half (1-2) inch distant from all woodwork, and connection with flue made air tight. Such flues or pits may also be used for sweepings but for no purpose which would be in violation of the ordinances of the City or the regulations of the Board of Health, and when such flues or pits are built in any building more than two (2) stories high and occupied for any other purpose than a dwelling such ash pits must have the cleaning out door accessible from the outside of the building only.

TITLE XXI.

STAIRS, HALLS AND ENTRANCES.

Sec. 1. Measurement of Stairs—

For the purposes of this Code the width of a stairs or stairway shall be the distance in the clear between the inner edge of the two (2) handrails, or between the wall and the inner edge of the outer handrail when there is but one (1) outside rail; the height of a riser is the plumb distance from top to top of treads, and the width of a tread is the horizontal distance from nosing to nosing or riser to riser; the widths and increase of widths given are for stairs with straight runs or flights; when curved or winding stairs are used their width shall be no less than one and one-quarter (1 1-4) times that of an equivalent straight run stair, and the given dimensions of the treads and risers shall be laid off on the center line of such run. The width of a tread in any public stairs at the narrowest end shall not be less than the height of one of its risers.

Sec. 2. Unit of Increase—

The unit of measure of increase in width of public halls and stairs in buildings of the First Grade shall be nine (9) inches for every increment of six (6) inches of increase; in buildings of the Second and Third Grades under similar conditions, as prescribed in Sections 13, 14 and 15 of this Title.

Sec. 3. Risers and Treads—

Risers shall never exceed or treads shall never be less, in the various grades of buildings, than the following dimensions:

First and Second Grades—Risers 7 1-2 inches, treads 10 1-2 inches.

Third Grade—Risers 7 3-4 inches, treads 9 1-2 inches.

Fourth Grade—Risers 8 inches, treads 8 inches.

Fifth and Sixth Grades—Risers 10 inches, treads 6 inches.

The provisions of this section shall apply to all interior or exterior or emergency stairs unless modified for special cases in subsequent Titles of this Code.

Sec. 4. Runs and Widths of Stairs—

No stairways in buildings of the First, Second and Third Grades shall be less than three (3) feet wide nor shall any public stairway have more than sixteen (16) rises in a run without an intermediate level landing, nor shall there be less than three (3) risers between any two (2) landings or any floor and landing, nor shall there be any change in the dimensions of treads and risers in any flight between two (2) floors, and there shall be at least seven (7) feet in the clear between the soffits of the stairs or ceilings of floors and nosing of treads and landings.

Sec. 5. Landings of Stairs—

(a) If a stair landing is in the direction of its run, its depth shall not be less than the sum of two (2) of its risers and two (2) of its treads; at angle turns the landings shall have no winders, and the depth shall never be less than the width of the stairway measured over all; for stairways returning directly upon themselves the landings shall be the full width of both flights and have a depth not less than the width of the stairs over all, and when two (2) side flights connect with one (1) main flight, the width of the main flight shall be equal to the aggregate width of the side flights, and the depth of the landing shall not be less than three-quarters (3-4) of the width of the main flight over all.

(b) In any building of the First, Second and Third Grades when the run of any stairs is enclosed on all sides, the landing at the top or bottom, if the doors swing outwardly from the stairs, shall be of no less width than prescribed in (a); and if such doors swing inward towards the stairs, the landings shall be at least the width of two (2) treads wider outside of the door when open, provided that such landings are never less than one and one-quarter (1 1-4) the width of the stairs, but no door shall swing directly upon the return landing of an enclosed stair hall or at right angles upon any other landing unless such stair landing is increased in width by the additional width of the door or such doors are hung in recessed jambs of a depth of the full width of the door.

Sec. 6. Hand Rails—

All stairways over three (3) risers high shall have substantial banisters and railings along the outside of all flights and landings and well holes. All buildings of the First and Third Grades and of divisions (a), (b) and (c) of the Second Grade, and all stairs having open wells on the left-hand side ascending shall have a railing on both sides of the stairways; all other stairs shall have at least one (1) hand rail placed on the wall on the right hand side ascending, but said wall hand rails shall not be required on level platforms and landings where the same is of greater length than the width of the stairs.

Hand rails in all buildings except those of the I class may be of hard wood.

Sec. 7. Construction of Stairs—

The construction of all stairs shall conform to the requirements of the class of building in which they are placed. Where an incombustible stairway is called for in which the treads and landings of iron stairs are of slate, marble or other stone, they shall each be supported directly underneath for their entire length and width by an iron plate made solid or having openings not exceeding four (4) square inches in same, of adequate strength and securely fastened to the strings. In case such supporting plates be made solid the treads may be of oak not less than one and five-eighths (1 5-8) inches thick. When all iron is used the treads and landings shall be of cast iron with all upper surfaces properly corrugated or ribbed, or otherwise provided with safety treads.

Sec. 8. Enclosures—

Where stairways are required to be enclosed in shafts in buildings of the IV, V and VI classes, such enclosures or stair halls shall include such portion of the hall necessary for the proper return of floor landing and shall be made with self-supporting partitions of brick or other incombustible material, or incombustible stud partitions, or metal lath partitions plastered on both sides, or dressed and matched plank two and three-quarters (2 3-4) inches thick. The stair halls in fireproof buildings shall be made entirely of incombustible material carried upon independent foundations or upon the metal framework. All doors to enclosed stairways shall be self-closing fire doors and when glass is used it shall be one-quarter (1-4) inch wire woven glass, no pane of which shall exceed eighteen (18) inches in width and six (6) square feet in area, set in metallic frames fixed in position, and unless otherwise provided there shall be no other openings except for doors between an incombustible stair enclosure and any other part of a non-fireproof building.

Sec. 9. Well Holes and Skylight—

All such enclosures shall be continuous from foundations to top of the roof with light wells as designated in Secs. 4 and 15 of Title XXIX and end with a ventilating skylight containing a glass area of not less than three-quarters (3-4) of the area of the enclosure, provided that the clear area between the curb lines of such skylight shall never be less than the amounts given in Col. XI, Table F, Title XXIX, for corresponding story heights; the curb of such skylight shall not be less than three (3) feet above the roof. The skylight shall be so constructed that it can be thrown open in the event of fire by a controlling device from the first floor, provided, that if such stair enclosure has a side-lighted bulkhead or texas as prescribed in Secs. 1 and 2 of Title XXIV or is located on an outside wall with window openings, such skylight may be omitted.

Sec. 10. Location of Stairs—

All stairs shall be continuous from the ground floor up to the topmost floor and when two (2) or more stairs are required they shall be located at as great a distance as is practical from each other.

No stairs leading to the basement of a non-fireproof building shall be located under any stairs extending above the second floor unless such stairs is mill constructed and enclosed with brick fire walls and has fire doors in the basement. See also Sec. 25.

Sec. 11. Stairs and Ladders to Scuttles—

All buildings over two (2) stories in height shall have scuttles in roof covered with incombustible material and ladders or iron stairs leading thereto from the floor below. No scuttle shall be less in size than twenty (20) inches by thirty (30) inches nor shall any scuttle be placed in any place but a hallway if the interior is subdivided in rooms.

The lid to any scuttle shall not be locked in any way, except with an ordinary bolt or hooks, which can be withdrawn without the use of a key. The ladder to the roof of any building requiring fire escapes shall be of iron. See Fire Escapes, Part IV of this Code.

Sec. 12. Engineers' Stationary Ladders—

Every building in which boilers or machinery are placed in the cellar or lowest story, shall have stationary ladders or stairs from such floor leading direct to manhole above on the sidewalk or other outside exit.

Sec. 13. Stairs in Buildings of the Second Grade—

(a) All non-fireproof buildings of Division (a), (c), (d), (e) or (f) of the Second Grade, in which, above the second floor, there is to be, or in which provision is made for an occupation of the same at times by fifty (50) to one hundred (100) or more persons employed, engaged, transient or guests therein, there shall be at least two (2) stair halls, each not less than three

(3) feet six (6) inches wide. The width of the stairs shall b increased six (6) inches for each increment of fifty (50) person or part thereof over one hundred (100) up to three hundred (300 or when five (5) feet is reached. If the number of persons s occupying such premises exceeds eight hundred (800) three (3) stairs, five (5) feet in width each, shall be constructed. If th number of persons so occupying such premises exceeds twelv hundred (1,200) they shall be governed as regards the number and size and construction of stairways, by the regulations laid down for buildings in Titles XXXVI and XXXVII. For fireproo buildings one (1) less stair hall may be used. See also Sec. 14.

In all cases the stairs shall be located at as great a distance as practicable from each other, and in cases where the persons so occupying such buildings are not all on one (1) floor, the widths and number of stairways in the several stories shall be governed as above by the total number of persons who will at any time be on any floor. All persons above any given story shall be counted in addition to the persons on that story.

(b) All non-fireproof buildings of Division (b) of the Second Grade (office buildings), if of the VI class and of less ground area than two thousand (2,000) square feet, shall have one (1) flight of stairs not less than five (5) feet wide, or two (2) flights not less than three (3) feet wide each; and for office buildings of ordinary construction and of greater ground area than two thousand (2,000) square feet, there shall be an additional flight of stairs for each additional two thousand (2,000) square feet of ground area, or for any fractional part thereof. For office buildings of the IV and V (semi--fireproof) classes there shall be at least one (1) flight of stairs at least five (5) feet wide, or two (2) flights not less than three (3) feet wide each for the first three thousand (3,000) square feet of ground area, and an additional flight of stairs shall be required for each additional three thousand (3,000) square feet of ground area or fractional part thereof. For fireproof office buildings there will be required one (1) flight of stairs not less than five (5) feet wide for the first five thousand (5,000) square feet of ground area, and an additional flight for each additional five thousand (5,000) square feet of ground area or fractional part thereof.

Sec. 14. According to Occupancy of Lot—

Irrespective of the number of persons occupying buildings of the Second Grade as prescribed in (a) Sec. 13, covering a lot area exceeding five thousand (5,000) square feet and not exceeding seven thousand five hundred (7,500) square feet, there shall be provided at least two (2) continuous lines of stairs, and every such building shall have at least one (1) continuous line of stairs for each five thousand (5,000) square feet of lot area covered, or part thereof, in excess of that required for seven thousand five hundred (7,500) square feet of lot area. When any such building covers an area of lot greater than fifteen thousand (15,000) square feet the number of stairs shall be increased proportionately. For fireproof buildings one (1) less flight of stairs than above called for shall be required in each case unless the floor area exceeds seven thousand five hundred (7,500) square feet in which case there shall be not less than two (2) stairs.

Sec. 15. Stairs in Buildings of the Third Grade—

(a) Every Tenement or building of the Third Grade shall have at least two (2) flights of stairs which shall extend from the entrance floor to the top story, and every apartment shall be directly accessible from an entrance hall by means of at least one (1) such flight of stairs. If there are more than sixteen (16) rooms above the second floor, exclusive of bath and toilet rooms, the width of the hallways and stairs, as provided in Sec. 24, shall be increased six (6) inches for every additional sixteen (16) rooms or fraction thereof, up to eighty (80) rooms or until the width of five (5) feet is reached.

(b) Every non-fireproof Tenement containing over eighty (80) rooms, exclusive of bath rooms, shall have one (1) additional flight of stairs (over and above the flights hereinbefore provided for) for every additional eighty (80) rooms, exclusive of bath rooms, or fraction thereof; but if such building contains not more than one hundred and twenty (120) rooms, exclusive of bath rooms, at the owner's option, in lieu of an additional stairway, the stairs and public halls throughout the entire building shall be at least one-half (1-2) wider than is provided for in Division (a) under this Section.

(c) Every fireproof Tenement containing over one hundred and twenty (120) rooms, exclusive of bath rooms, shall have one (1) additional flight of stairs (over and above the flights hereinbefore provided for) for every additional one hundred and twenty (120) rooms or fraction thereof; but if such building contains not more than one hundred and eighty (180) rooms, exclusive of bath rooms, at the owner's option, in lieu of an additional stairway, the stairs and public halls throughout the entire building shall be made at least one-half (1-2) wider than is provided in division (a) of this Section.

Sec. 16. Stairs in Buildings of the Fourth and Fifth Grades—

For non-fireproof buildings of the Fourth Grade, except eight (8) room dwellings not exceeding two (2) stories in height, there shall be for each building at least two (2) flights of stairs, which, for buildings of two thousand (2,000) square feet or less in ground area, or containing fifteen (15) or less rooms above the second floor shall be at least three (3) feet wide each, with an increase of six (6) inches in width for each additional of five hundred (500) square feet to the ground area of or additional ten (10) rooms in the building, up to a ground area of three thousand (3,000) square feet, and after that there shall be an additional flight of stairs not less than three (3) feet wide for each additional two thousand (2,000) square feet, or additional ten (10) rooms, or fractional part thereof. In all cases where buildings of these grades are built entirely of fireproof construction, the number of stairs herein provided may be reduced by one (1) flight from the number herein specified for non-fireproof buildings.

Sec. 17. Monumental Stairs—

Stairs in mercantile and manufacturing buildings shall be enclosed in shafts constructed of brick or other incombustible material as per Sec. 8, but nothing in this provision shall be so construed as to prohibit the use of an independent monumental stairs in stores or salesrooms extending from the basement to the second floor as far distant as possible from and in addition to the other required stairways.

Sec. 18. Stairs in School Buildings—

School buildings, if more than one (1) story in height and having more than three (3) rooms above the first story, shall have at least two (2) separate and distinct stairways, as far remote from each other as practicable. School buildings or all buildings of the First and Second Grades containing a general assembly room shall have stairs and fire escapes proportioned as prescribed for Assembly Halls under Title XXXVI.

Sec. 19. Entrance to Basement—

Whenever the basement of a building is used for living rooms, salesroom, manufacturing purposes, or place of assembly or resort, it shall have a staircase at least three (3) feet wide leading direct to street or outside for every five thousand (5,000) square feet of lot area or part thereof covered by the building, and shall have at least one (1) continuous line of stairs leading to the street for each five thousand (5,000) square feet of lot area, or part thereof, or otherwise be proportioned according to the number of occupants as for Assembly Halls under Title XXXVI.

Sec. 20. Cellar Stairs—

The cellar stairs in frame dwellings may be placed directly under main stairs, and no brick wall shall be necessary to enclose the same.

Sec. 21. Outside Stairs—

In all cases where one (1) incombustible stairs is constructed on the outside of a building, of every two (2) stairways required for the building or where the stair-halls and elevator shaft from the ground entrance to the roof are enclosed in a brick or fireproof shaft, and the entrance on any floor thereto is from an incombustible balcony or loggia, free and open on the outside to the air, then fire escapes may be omitted. See Part IV of this Code.

Sec. 22. Elevator Walls—

No stairways shall hereafter be constructed around or alongside elevator shafts in buildings over four (4) stories in height unless said stairways are separated from the elevator shaft by a fireproof wall.

Sec. 23. Changing and Obstructing Stairs—

It shall be unlawful under any circumstances to close up or obstruct the stairs or fire escapes or the approaches leading thereto in any building, and no change in the construction or position of either shall be made unless the permit so to do shall first have been obtained from the Inspector. See Sec. 5 (b) and also Secs. 41 and 65 of Title XXXVII.

Sec. 24. Halls and Doors—

For the purpose of procuring proper egress from buildings, the following table gives the minimum sizes which shall be used in proportioning public halls, stairs, doors and transoms. Passageways leading to or from any stairs shall not be less than the width of the stairs over all with which it communicates, provided, the hallway into which any door swings or adjoins is at least six (6) inches wider than the widest door opening.

Grades of Buidings.	In Clear Measure.		Stock Sizes.			
	Entrance Halls.	Stairs and Public Halls.	Entrance Doors to Entrance Halls.	Subordinate Doors.	Height of Doors	Height of Transom.
1st	5′ 0″	4′ 0″	4′ 0″	2′ 10″	7′ 0″	18″
2nd . . .	4′ 0″	3′ 6″	3′ 6″	2′ 8″	6′ 10″	16″
3rd . . .	3′ 6″	3′ 0″	3′ 0″	2′ 6″	6′ 8″	14″
4th & 5th.	3′ 0″	2′ 8″	2′ 8″	2′ 4″	6′ 4″	12″

The aggregate width of the entrance or exit door openings at the street level in buildings of the First, Second and Third Grades shall be at least equal to the aggregate width of the stairways, and such doors shall be not locked during business hours or when the building is occupied by large numbers of people.

Unless otherwise herein prescribed, the width and number of aisles, corridors, halls, passages, stairways and doors of common public use in all buildings shall be computed and constructed in the same manner as specified for assembly halls and theatres in Title XXXVII.

Transoms in enclosed stair halls shall be fixed and glazed with wired glass. See also Secs. 13 and 14, Title XXXI.

Sec. 25. Entrance Halls—

All entrance halls shall lead directly from a street, alley or court, or a courtway or yard connected directly with a street, and shall be as short and as direct as possible between the street lines and stairways, and every flight of stairs required shall have such an entrance hall on the ground floor, and when they pass through a first floor occupied for mercantile or manufacturing purposes with different tenants or grades of occupancy above them, they shall be enclosed entirely with fireproof walls; in non-fireproof buildings such enclosures shall be of brick extending from the foundation up to the top level of the second tier of joists. There shall be no openings into the first floor or basement of such enclosures, and no opening from the first floor to the basement shall be underneath such a stairs unless the street entrance floor and the soffits of the first flight of stairs and the ceilings are made fireproof and completely cut off from the well holes, but no passenger elevator in such an entrance or stair hall shall extend to the basement.

Sec. 26. Main Hall—

If the entrance to the main public hall is the only entrance to more than one (1) flight of stairs, the several portions of such main entrance hall which separate the entrance of the building from several flights of stairs, respectively, shall be increased at least one (1) foot in width for each such additional flight of stairs, provided, that if the length of such entrance or public hall is of a greater depth than fifteen (15) feet the width shall be at least one (1) foot greater than the prescribed minimum for the first twenty-five (25) feet length of hall and shall be further increased at least six (6) inches for each and every twelve and one-half (12 1-2) feet or fraction thereof of increase in length in excess of twenty-five (25) feet. All such entrance halls in through buildings on interior lots shall extend through to the yard, or to the farthest flight of stairs opening from a courtway leading direct to a street or alley.

Sec. 27. Lighting Public Halls—

Every public public hall shall be lighted by at least one window in each story opening directly on a street, alley, yard or court, or by a skylight. Such window shall be so placed that light may pass directly through it and the hall to the opposite end of the hall, or else there shall be at least one (1) window opening directly upon a street or alley, yard, court or light shaft, in every twenty-five (25) feet in length or fraction thereof of such hall, except in so much of any entrance hall as lies between the entrance and the flight of stairs nearest the entrance. In any such public hall, recesses or returns, the length of which do not exceed twice the width of the public hall, will be permitted, without an additional window, but otherwise each recess or return shall be regarded for the purpose of this section, as if it were a separate hall. And any part of a public hall which is shut off from any other part by a door or doors, shall be deemed a separate public hall within the meaning of this section. See also Sec. 13, Title XXI.

Sec. 28. Natural and Artificial Lighting of Halls—

One (1) at least of the windows provided to light each public hall or part thereof shall have a glass area of at least twelve (12) square feet and have an equivalent of artificial light for night service while the building is occupied. See also Titles XXXI and XXXIV and Part IV of this Code.

TITLE XXII.

ROOFS AND APPENDAGES.

Sec. 1. Class of Construction—

Unless otherwise prescribed in this Title, all roofs and their appendages shall conform in construction with the class of building they cover or enclose.

Sec. 2. Shingle Roof—

The use of shingle roofs or other forms of combustible roof covering upon buildings erected or altered within the fire limits is prohibited.

Sec. 3. Gravel Roof—

A roof whose slope is not more than three (3) inches per foot horizontal, and the covering of which is made with a composition of felt and gravel, shall be considered incombustible under the provisions of this Code, and may be used upon buildings of all classes, provided, that such roofing is not less than four (4) ply for all buildings better than the VI class. See also Sec. 28, Title I.

Sec. 4. Construction of Roofs—

In the case of all buildings less than sixty (60) feet in height, roofs having a slope of more than that specified for composition roofs may be made of timber and board construction, and shall be covered with slate or glazed tile or metal. The roofs upon buildings sixty (60) or more feet and less than one hundred (100) feet high, and of greater slope than three (3) inches to the foot, and less slope than thirty (30) degrees with the horizon, shall, if made of timber construction, have a fireproof covering upon the roof boards. which shall be made either of mortar, porous terra cotta or plaster boards, and which shall be at least two (2) inches thick. If this covering is made upon the roof boards, wooden strips shall be inserted and securely fastened to the wooden substructure at regular intervals between the fireproof covering, and a weather-proof covering of sheet metal, slate or glazed tile shall be securely fastened thereto, provided that in the roof on buildings of the IV and V classes a single thickness of one and three-quarters (1 3-4) inch matched planking may be used to receive the roof covering direct.

Sec. 5. Rise of Roof Above Limit of Height—

In the case of buildings which are entirely fireproof in their construction and of which the roof is also entirely of fireproof construction, the roof may rise above the limit of height of wall fixed by this Code for such buildings at a slope not to exceed thirty (30) degrees with the horizon, and to a height not exceeding ten (10) feet above the limitation of height of such wall. The space enclosed by such roof above the legal limitation of the shall be regarded, for the purpose of this section, as if it were a height of such wall may be used as an enclosure for pipes, water tanks, ventilating or elevator machinery, or for ventilating ducts, but it shall not be lawful to use such attic space for purposes of storage, business or residence.

Sec. 6. Mansard Roofs—

If a mansard or other roof of like character having a pitch of over sixty (60) degrees be placed on any building, except a wood building, or a dwelling house, or any building of the IV and VI classes not exceeding three (3) stories, nor more than forty (40) feet in height, it shall be constructed of iron rafters and lathed with iron or steel on the inside and plastered, or filled in with fireproof material not less than three (3) inches thick, and covered with metal, slate or tile. See also Sections 9 and 10, Title VIII.

Sec. 7. Roofs on Contiguous Buildings—

In all cases where two or more buildings over two (2) stories in height are built adjoining one to another and separated by means of a division wall or walls, the roof sheathing, cornices or ridge moldings shall not extend over or cover any portion of such division wall or walls unless such roofs are constructed wholly of fireproof materials, as prescribed in Title XV.

Sec. 8. Cornices—

In all cases where a wall is finished with a stone or terra cotta cornice, sixty-five (65) per centum of the weight of the material for such cornice shall be on the inside of the outer face of the wall, or shall be securely anchored so that the cornice shall be firmly balanced upon the wall. In skeleton construction all horizontal and vertical joints shall be made water-tight. Cornices, gutters, eaves, or parapets of all buildings over forty (40) feet high, excepting residences, shall be constructed of non-combustible material, and shall be well secured to the wall with iron anchors or metal brackets.

The backs of tin and iron coverings shall have at least one (1) coat of paint, and all cornice lookouts and anchors two (2) coats of paint. See Title XI.

Sec. 9. Lookouts—

The lookouts to which the cornice on all buildings over four (4) stories in height is secured shall in all cases be of metal placed not more than four (4) feet apart and firmly secured to the wall; intermediate lookouts in non-fireproof buildings may be of wood. In all cases the walls shall be carried up to the sheathing of the roof, and where the cornice projects above the roof, the walls shall be carried up to the top of the cornice.

Wood shall not be used in any cornice or gutter for buildings of one hundred (100) feet or more in height.

Sec. 10. Repair of Cornices—

All exterior wooden cornices, except for residences and buildings under forty (40) feet in height, that shall hereafter require to be repaired or replaced, shall be constructed of some non-combustible material, as required for new buildings; and all exterior wooden cornices or gutters, except for residences and buildings under forty (40) feet in height, that may hereafter be damaged by fire or otherwise, if replaced, shall be constructed of non-combustible material.

Sec. 11. Snow Brakes—

Snow brakes or guards made of incombustible materials shall be attached to all roofs of buildings over two (2) stories, or twenty-five (25) feet high hereafter constructed or altered along any courtway or street lines or within ten (10) feet of the same, having a pitch of more than twenty-five (25) degrees, unless projecting cornices or gutters are so arranged as to form adequate snow guards.

Sec.12. Down Spouts and Gutters—

All buildings shall be kept provided with proper metallic down spouts and eave or cornice gutters for conducting water from the roof to the ground, sewer or street in such manner as shall protect the walls and foundations from damage, and in no case shall water from roofs be allowed to flow upon sidewalks, but shall be conducted by drain pipe or pipes to sewer, or under sidewalk to the gutter when no sewer exists. See Part VI of this Code.

Sec. 13. Towers—

Towers and spires shall not exceed the following heights above the grade: On buildings of the VII class, seventy (70) feet; on buildings of the VI class, one hundred (100) feet, and on buildings of the IV and V classes one hundred and fifty (150) feet. All towers or spires more than one hundred and fifty (150) feet in height from the sidewalk shall be built entirely of incombustible material. But no such tower or spire shall occupy more than one-quarter (1-4) of the street frontage of any building on which it is built, and none shall in any case have a base area of more than sixteen hundred (1,600) square feet, and where the area of such tower or spire exceeds one hundred (100) square feet its supports shall be carried down to the ground.

Sec. 14. Dormers and Pent Houses—

According to the class of construction to which they are attached, all Dormer windows and Pent houses or bulkheads or curbings used as enclosures for tanks and elevators and coverings for the machinery of elevators, or any other purpose whatever, hereafter erected on or above the roof of buildings over three (3) stories high shall be built of fireproof materials; or of wood covered with not less than two (2) inches of fireproof material, or filled in the thickness of the studding with such material and covered on all outside surfaces with metal, including both surfaces and edges of doors. All scuttles shall be metal clad. Where party or division walls form one (1) or more sides of pent houses, such walls shall be carried up as fire walls above the roof of the pent house.. Pent houses on buildings of the VI class may have a single thickness of seven-eighths (7-8) sheathing, metal clad, but the height of no elevator pent house or bulkhead shall exceed fifteen (15) feet above the roof.

No pent house or bulkhead used or occupied for manufacturing, business or storage purposes, shall be placed upon any roof above the cornice line, except for photographic and scientific observation purposes in which case the total area of such pent houses shall not exceed ten (10) per cent. of the roof area after deducting all other appendages, and when the per cent of such area occupied exceed ten (10) per cent, or the height of such pent house, or bulkhead, or any side lighted texas exceed ten (10) feet above the roof or main cornice line, the measurements for the height of the building shall be taken from the top of the roofs of such pent house, bulkhead or texas.

Sec. 15. Tanks—

Tanks containing more than five hundred (500) gallons of water or other fluid hereafter placed in any story, or on the roof or above the roof of any building now or hereafter erected, or if detached from any buildings except of the VII class, in the Urban district, and less than thirty (30) feet distant from any building in the Outer district, shall be supported on iron or steel beams of sufficient strength to safely carry the same; and the beams shall rest at both their ends on brick walls, or on iron or steel girders, or iron or steel columns, or piers of masonry. Tanks upon roofs of buildings of the IV class not exceeding eighty (80) feet in height, and on all buildings of the V, VI and VII classes, may be supported by timbers. Underneath any said water tank or on the side near the bottom of same, there shall be a short pipe or outlet, not less than four (4) inches in diameter fitted with a suitable valve having a lever or wheel handle to same, so that firemen or others can readily discharge the weight of the fluid contents from the tank in case of necessity. Such tanks shall be placed where practicable at one corner of a building, and shall not be placed over, nor near a line of stairs. Covers on top of water tanks placed on roofs, if of wood shall be covered with tin.

All wooden tanks hereafter erected on buildings in the "Inner" district shall be enclosed in brick or other incombustible walls.

Sec. 16. Ventilators and Skylights—

All attics not otherwise provided with ventilating windows and apparatus shall be provided with one (1) or more sheet metal ventilators and every fireproof roof hereafter placed on any building shall have, besides the usual scuttle or bulkhead, a ventilated skylight or skylights of a superficial area equal to not less than one-fiftieth (1-50) the superficial area of such fireproof roof. See also Title XXIV.

TITLE XXIII.

BAYS AND BALCONIES.

Sec. 1. Restriction—

With the exception of those noted under Title XIII, no oriel bay, balcony or porch shall extend to within one (1) story of the top of any building three (3) or more stories in height, nor more than three (3) feet above the floor line of such upper story.

Sec. 2. Aprons, Bays and Oriels—

All aprons, bays and oriels over sixty (60) feet high above the grade shall be of I, II or III class construction, and all bays less than sixty (60) feet high, except on buildings of the I. class, may be of mill construction metal clad, and on non-fireproof buildings of the IV, V and VI classes they shall be sheet metal clad; no wooden lookouts or cornice mouldings to be used on bays over sixty (60) feet high, nor shall any oriel bay window project more than four (4) feet beyond the building line.

Where metal clad aprons are employed on buildings of the IV and V classes the back of sheathing between the studs shall be filled in solidly with brick or other fireproof material.

Sec. 3. Porches and Balconies—

All porches over two (2) stories in height and under sixty (60) feet in height shall be of V class construction with iron frames, and of fireproof construction if over sixty (60) feet in height, or if used in connection with a fire escape; balconies and loggias attached to any building above the second floor level shall have iron frames and plank floors, but above sixty (60) feet in height they shall be of iron or be of fireproof construction throughout. Outside stairs used in connection with porches attached to buildings of the IV, V and VI classes over two (2) stories but not exceeding four (4) stories or sixty (60) feet in height, shall be of at least V class construction with treads and stringers not less than two and three-quarters (2 3-4) inches thick.

Sec. 4. Supports—

The cantilever brackets and supports of all oriel bays, porches, and balconies, as prescribed in this Title, except for buildings of the VII class and above the third floor of buildings of the VI class, shall be of steel or other incombustible material. See Sec. 17, Title XI.

Sec. 5. Area of Face Occupied—

No oriel bay, balcony or porch, alone or in combination, connected with buildings three (3) stories in height, shall cover more than seventy-five per cent. of the entire width of a front or side of a non-fireproof building, or more than eighty (80) per cent. of a fireproof building, provided, that in non-fireproof buildings the width of any single bay or oriel shall not exceed twelve (12) feet, or fourteen (14) feet in fireproof buildings, for every twenty (20) feet of frontage or panel division, nor shall there be more than one (1) such bay for every twenty (20) foot interval, provided further, that all bays, except corner oriels, in buildings of wall or pier construction, shall never be nearer than three (3) feet to a corner or lot line, and have six (6) feet in non-fireproof buildings and at least four (4) feet in fireproof buildings between each bay; if such bays extend through two (2) or more stories in height the jamb adjoining a built-in column shall never be less than eight (8) inches thick.

Sec. 6. Shop Fronts—

Shop fronts shall conform in construction with the building to which they are attached; the cornices of shop fronts in buildings of the VI class less than three (3) stories high may be of wood if not over twelve (12) inches in height. See also "Roofs and Appendages," Title XXII.

Sec. 7. Exceptions and Measurements of Areas Occupied—

The provisions of Sec. 5 as to area of face occupied by porches or balconies shall not apply to single or double dwellings or to the rear face of free-standing semi-detached buildings of the Third Grade, but the measurement for the yard, court and other spaces for all grades of buildings, as prescribed in Titles XVIII and XXIX, shall be taken from the outer cornice lines of such porches and balconies and the measurement for lighting and ventilation of rooms, as prescribed in Title XXXI, shall be taken to the outer edge of the architrave of the porch or at the lowest point of the balcony instead of to the window head as prescribed in Secs. 5 to 10 inclusive, of that Title.

TITLE XXIV.

SKYLIGHTS AND FLOOR LIGHTS.

Sec. 1. Skylights—

In all buildings hereafter erected, the roof immediately over the enclosed elevator openings, stairways, hoist-ways, chutes, or well-holes shall be provided with skylights or side-lights above the roof having a glazed area of at least three-quarters (3-4) of the shaft. The skylight shall be made of glass set in metal frames set on curbs not less than three (3) feet above the roof. Said curbs shall conform to the construction of the building but in all cases shall be covered on the outside with metal or other incombustible covering. See Sec. 14, Title XXII.

All skylights having a superficial area of more than ine (9) square feet, shall have immediately underneath or above the glass, a wire netting to be made of wire not smaller than No. 8 and to be netted to not more than one and one-half (1 1-2) inch mesh, unless the glass contains a wire netting within itself.

In unenclosed elevator shafts, where the machinery can be placed between the attic floor and the roof, such machine loft shall be enclosed on all sides in the attic by incombustible partitions and fire doors, and if such loft is not provided with equivalent window space in the outside walls, then each such enclosure shall be provided with a ventilated skylight with a glass area of no less than one-third (1-3) of the area enclosed.

Sec. 2. Ventilating Skylights—

All skylights or side-lights placed upon roofs as prescribed in Sec. 1, shall be provided with opening devices so that at least one-half (1-2) the area can be opened from any floor, and in addition, every such skylight or side-lighted bulkhead or texas, at their highest point, shall be provided with one (1) or more sheet metal open latticed louvres or automatic ventilators the combined area of which shall not be less than two (2) per cent. of the area of the skylight curb or side-lighted bulkhead or texas. See also Titles XXI, XXII, XXIX, XXXV and XXXVII and Part IV of this Code.

Sec. 3. Floor and Sidewalk Lights—

Floor lights used for transmission of lights to floors below shall be constructed either of metal frames and bars or plate; and if any glass in the same measures more than sixteen (16) square inches, the said glass shall be provided with a mesh of wire, either in the glass or under the same, and the floor lights shall be of the same proportional strength as the floors or sidewalks in which they are placed or else a railing four (4) feet high shall be built around the same.

Sec. 4. Photographers' Skylights—

Photographers' skylights may be constructed without wire netting if metal frames and plate glass is used.

Sec. 5. Green Houses—

Green houses and conservatories, if located within the "Inner" fire limits, shall have metal frames and bars.

TITLE XXV.
FENCES AND RAILINGS.

Sec. 1. Permanent Fences—

All permanent fences and screens acting as a fence over five (5) feet high in the fire limits shall be constructed of brick, metal or other incombustible material, but no barbed wire fence shall be permissible along any public thoroughfare or park.

Sec. 2. Temporary Fences—

Temporary wooden fences to shield lots during building operations may be erected upon public property after a permit for the same has been obtained, but, they shall not be less than five (5) nor more than eight (8) feet in height, and all such fences shall be removed within ten (10) days after the external walls of the building are erected and the roof enclosure is covered in. See Part III of this Code.

Sec. 3. Guard Rails—

Metal guard rails not less than forty-two (42) inches in height with not less than two (2) intermediate rails equally spaced shall be placed along all open areas or passageways or stairs crossing areas from the street to the entrance of a building, or along any area which adjoins habitable rooms in a basement. Said rails shall be of sufficient strength to resist the pressure of a crowd. Regarding basement window gratings see Sec. 20, Title XXIX.

Sec. 4. Gratings—

Buildings hereafter to be erected shall have no open gratings covering the areas adjoining any habitable rooms in any basement, except for cellars in private property where there is no thoroughfare.

Sec. 5. Balcony Railings—

All railings for exterior or interior balconies along courts, well-holes and light shafts shall not be less than thirty-six (36) inches high, and on buildings over three (3) stories high all exterior railings shall be metal.

Sec. 6. Stair Railings—

The banisters and well-hole railings of public stairs shall not be less than thirty-four (34) inches high measured on the plumb in the center of the treads or platform landings.

TITLE XXVI.

SIGNS AND BILLBOARDS.

Sec. 1. Signs and Sign Boards—

Signs and sign boards mean all display boards, fences or screens used as such having letters or illustrations painted or raised thereon.

Sec. 2. Billboards—

Billboards mean display boards, fences or screens used as such, having paper or other material attached thereto with letters or illustrations painted or printed thereon.

Sec. 3. Banner Signs—

Banner signs mean display signs painted or printed upon cloth, with or without frames. Painted canvas signs on wooden stretchers shall be classed as wooden signs.

Sec. 4. Unit of Measure—

The unit of measure under this Title shall be a standard sheet of paper the dimensions of which are twenty-eight (28) inches in height by forty-two (42) inches in length respectively, the unit of height and unit of length.

Sec. 5. Margins—

All signs, sign boards, and billboards which do not exceed a unit in height, or whose length does not exceed a unit of length for the heights and lengths hereafter prescribed, may have in addition a margin not exceeding one and three-quarter (1 3-4) inches; all boards larger than an eight (8) sheet board may have a margin not exceeding three (3) inches in width with an additional cap drip mould of two (2) inches on top.

Sec. 6. Dimensions of—

No sign or billboard shall be higher than four (4) sheets and not more than ten (10) feet over all; and the maximum area of any sign or billboard shall not exceed a forty-eight (48) sheet board with margins as prescribed above; that is, four (4) units high and twelve (12) units long, or ten (10) by forty-two and one-half (42 1-2) feet.

Sec. 7. Owner's Sign—

All boards larger than twelve (12) sheets may have the owner's name raised on a separate board above such boards, but its top shall not extend more than one-half (1-2) a sheet above and its length three (3) sheets in its extreme dimensions; nor shall there be more than one (1) such owner's sign for a board or collection of boards for every twelve (12) sheet lengths.

Sec. 8. Setting of Boards—

All boards higher than three (3) sheets and of a greater area than four (4) sheets shall be raised above the ground as follows:

Boards not exceeding twelve (12) sheets if set singly shall have their lower edge at least two (2) feet, and when placed side by side in a continuous row up to the maximum length of twelve (12) sheets, or any single board not over twelve (12) sheets in length, shall be three (3) feet above the grade at the centre point of the board. Where there is a change of grade one (1) end shall be not less than two (2) feet nor shall the maximum height at the highest end exceed five (5) feet above the grade line. Where the grade is level the top line shall not exceed fourteen (14) feet above the grade.

Sec. 9. Location of Boards—

No sign or billboard larger than eight (8) sheet board shall be located within fifteen (15) feet of a street line in the "Inner" fire district, or fifteen (15) feet of the street line, or the front building line of the next adjoining building of the First, Third and Fourth grades, and divisions (a), (b) and (c) of the Second grade farthest from the street in the "Outer" fire or "Urban" districts. See Title XXXII.

Sec. 10. Distance from Lot Lines—

All signs and billboards shall be independently supported on substantial posts and be thoroughly braced and anchored against wind pressure, and so placed upon lots as to leave not less than one (1) sheet length in clear width of free way next to the lot or building lines at the ends, and when the total length of a space occupied by billboards measured either in a straight line, on a curve, or around a corner, exceeds twelve (12) sheets as herein established, there shall be left not less than one (1) sheet length of width of clear, free way between each twelve (12) sheet length interval or part thereof in excess of twelve (12) sheets.

Sec. 11. Iron Clad Boards—

All boards larger than twelve (12) sheets erected within the fire limits shall be metal clad, of galvanized iron on wooden frames built of one and three-quarter (1 3-4) stock and in the "Outer" district no wooden upright shall be less than 5x5 inches nor shall the braces be of less than 2x6 inch scantlings. In the "Inner" district all boards larger than four (4) sheets shall be metal clad placed on iron supports provided that no board in such district is larger than a twelve (12) sheet board without being spaced as provided in Sec. 10.

Sec. 12. Signs on Buildings—

No wooden sign or signboard attached to or placed upon a building shall exceed the area of a twelve (12) sheet sign or billboard, and shall never exceed the height of one (1) sheet in height. All boards wider than a one (1) sheet board and exceeding the area of a four (4) sheet board shall be of metal, or wood metal clad on all exposed sides; but no such sign board if it exceeds an eight (8) sheet board in area shall be attached to the face of a building, nor shall any such board be placed upon the roof or coping wall of a building if its area exceeds that of a sixteen (16) sheet board. But no sign of any kind shall be attached to or placed upon a building in such manner so as to obstruct any window or fire escape thereon.

Sec. 13. Sky Signs—

Sky signs of a greater area than a sixteen (16) sheet board shall be constructed of wire netting in a metal frame with wood or metal letters or illustrations thereon. If such sign is to be electrically illuminated no wood shall be used. Sky signs of open wire work of no greater area than a forty-eight (48) sheet board may be placed upon the roof of any buildings, provided that the extent of any sign board or sky sign does not extend ten (10) feet over all on its face; or that its top is not over fourteen (14) feet above its base measured at the roof line irrespective of any coping line.

Sec. 14. Supports and Anchors—

All signboards attached to or placed upon buildings shall be thoroughly secured thereto by iron or metal anchors, bolts, staples, supports, chains, guys, or braces, as prescribed in Title XI. No roof or sky sign shall be placed upon the cornice of a building in front of the building line or in front of the coping wall if any; nor shall there be more than one (1) such sign board or sky sign on the roof of any building on each street front.

Sec. 15. Swinging Signs—

No swinging sign shall be of a greater area than a one (1) sheet board, nor shall such sign project more than four (4) feet beyond the face of the building. If such swinging sign is constructed of open wire work with letters or illustrations attached thereto the area over all shall not exceed a two and one-half (2 1-2) sheet board.

Sec. 16. Projecting Signs—

All fixed projecting signs of a greater area than a two (2) sheet board shall be of metal, or metal clad wood, and projecting signs larger than an eight (8) sheet board but not exceeding the area of a twelve (12) sheet board shall be of open wire work with wooden or metallic forms and letters or illustrations, except as provided for electrical signs as prescribed in Sec. 13.

Sec. 17. Illuminated Signs—

Illuminated signs with glass fronts shall not exceed the height or area of the sign prescribed in Sec. 12 if attached and parallel to the face of the front; nor the area of a one (1) sheet board with one or more faces illumined if projecting at any angle from the building line.

Sec. 18. Setting of Projecting Signs—

The lower edge of all projecting signs shall be at least eight (8) feet above any walk or passageway and at least fourteen (14) feet above any driveway or alley.

Sec. 19. Banner Signs—

All temporary banner signs may be made of cloth on wooden frames but shall not exceed the area of a forty-eight (48) sheet board.

Sec. 20. Fence Signs—

The restrictions of Secs. 8, 9 and 10 do not apply to permanent fences (see Sec. 1, Title XXV), provided that if such fences are used for the purposes prescribed in Secs. 1 and 2 of this Title, the portion so used shall be no higher than any other part of the fence enclosing the lot, and provided further that the portion used as prescribed in Secs. 2 and 3 shall not exceed the height of a three (3) sheet board.

Sec. 21. Signs on Public Property—

For signs and sign boards on public property see Part III of this Code.

Sec. 22. Existing Boards—

All signs, sign and billboards hereafter to be erected, and all existing signs and billboards, when the same are repaired, altered or changed shall be made in conformity to the provisions of this Title; and all double-deck sign or billboards, and all signboards whose faces exceed twelve (12) feet, or whose length and location is in conflict with the provisions herein contained shall be made to conform with this Title, or removed entirely as the case may be, on or before October 1st, 1904. In the meantime, no existing board shall be repaired, changed or altered except in conformity with the provisions of this Title.

Sec. 23. Signboards a Nuisance—

All signboards and billboards now or hereafter erected on any residence street within two hundred (200) feet of any park, park boulevard or driveway, except signboards not exceeding a one (1) sheet board in area, used for advertising the sale or renting of the property on which they are located, and all signs on buildings on any residence street within said two hundred (200) feet, except signs advertising the business within, or signs used to advertise the selling or renting of the property, are hereby declared to be public nuisances, and any such first described sign boards or billboards now existing shall be removed by the owners thereof within thirty (30) days after the passage of this ordinance, and upon failure thereof the same shall be torn down under the direction of the Inspector of Buildings.

TITLE XXVII.

TEMPORARY STRUCTURES.

Sec. 1. Temporary Supports—

Any temporary support placed under any structure, wall, girder, or beam, during the erection, finishing, alteration or repairing of any building or structure, or part thereof, shall be of sufficient strength to safely carry the load to be placed thereon.

Sec. 2. Scaffold, Staging and Hoist—

Scaffolding, staging, hoists and such other appurtenances of building operations must be amply strong and secure for the purposes intended. See also Parts III and V of this Code.

Sec. 3. Outside Scaffolds—

Outside scaffolds either supported by continuous supports from the ground up or upon thrust outs from windows and walls above the third floor shall be provided with tight plank floors and ten (10) inch curbs and 2x4 inch hand rail thirty-four (34") inches high on the outside; and when such scaffolds are used on buildings over seventy-five (75) feet high there shall be a guard rail filled in with wire netting not exceeding two (2) inch mesh, or seven-eighths (7-8) inch boards not over one-half (1-2) inch apart secured to uprights not less than two (2) inch by four (4) inch scantlings thoroughly braced and secured. Said enclosure shall be kept at least five (5) feet in advance of the level on which the workmen employed on said front are working.

Sec. 4. Closing of Openings—

During the construction or alteration of any building within ten (10) feet of any street line or unprotected sidewalk, the windows on each floor above the second shall be temporarily or properly inclosed as soon as the story is built.

Sec. 5. Temporary Floors—

All owners, or their agents, of buildings in course of construction shall provide for temporary floors built of scaffold planks laid close together, or with other suitable materials, for protection of life and limb of the workmen therein as follows:

First.—In a skeleton frame construction a plank floor shall be maintained over the entire building area within three (3) stories below the riveters and within five (5) stories below the erectors. Such floor may be shifted at any three (3) story heignt interval, but no floor shall be shifted until the whole of the next succeeding floors are completely braced and riveted up.

Second.—In a fireproof wall-bearing frame construction a temporary floor shall be put in at every story before the riveting on the next floor system above is started.

Third.—No enclosing wall in a skeleton or wall-bearing frame constructed building or any other fireproof floor arched or trussed concrete building shall be carried up more than one (1) story in advance of the other unless every floor below is completelv braced and riveted up and the working floor is covered with a temporary floor, or, in lieu thereof, has the floor centering or fireproof filling put in place. See also Sec. 5, Title IX.

Fourth.—In non-fireproof buildings where a double floor is to be laid, the owner shall provide for the lower thickness or rough floor being laid before the walls of the next story are put on. If the building is of the IV or V class of construction where there is a single thickness of heavy flooring and such flooring is not to be laid at once he shall provide a temporary floor over each floor.

Fifth.—If the building is of frame construction or if beams are not spaced more than two (2) feet on centers no temporary floor is required.

Sec. 6. Temporary Stairs—

All buildings over three (3) stories high shall be provided by the owners thereof with temporary plank stairs of no greater pitch than seventy-five (75) degrees to the horizon, for the facilitation of inspection, and said stairs shall be kept in good repair until the permanent stairs are made accessible.

TITLE XXVIII.

DANGEROUS BUILDINGS—REPAIR AND REMOVAL.

Sec. 1. Character of—

All buildings in which the following conditions obtain shall be deemed dangerous:

(a) Those which list, lean or buckle to such an extent that when a plumb line drawn through the centre of gravity falls outside the middle third of the base of the structural parts supporting loads.

(b) Those which, exclusive of the foundation show thirty-three (33) per cent. of damage or deterioration of the supporting member or members, or fifty (50) per cent. of damage or deterioration of the non-supporting enclosing walls or covering.

(c) Those which have improperly distributed loads upon the floors or in which the floors are overloaded.

Sec. 2. Repair—

All defective or dangerous buildings shall be repaired and put in a safe condition at once, or if the deterioration is of greater per cent than given under Sec. 1, beyond the possibility of repair, then they shall be entirely removed.

Sec. 3. Distribution of Load—

The weight placed on any of the floors of any building during its erection or after its completion shall be safely distributed thereon. The Inspector shall require the contractor or owner or occupant of any building, or any portion thereof, to redistribute the load on any floor, or to lighten such load where he deems it necessary.

Sec. 4. Posting Calculated Floor Loads—

To prevent overloading in all warehouses, storehouses, factories, workshops and stores where heavy materials are to be kept or stored, or machinery introduced, the weight that each floor will safely sustain upon each square foot thereof or upon each varying part of such floor, shall be estimated by the Inspector, or by a competent person employed by the owner or occupant, said estimate shall be placed in a conspicuous place on each story, or varying parts of each story, of the building to which it relates. Before any building hereafter erected is occupied and used in whole or in part, for any of the purposes aforesaid, and before any building erected prior to the passage of this Code, but not at such time occupied for any of the aforesaid purposes, is occupied or used, in whole or in part, for any of the said purposes, the weight that each floor will safely sustain upon each square foot thereof shall be ascertained and posted in a conspicuous place on each story or varying part of each story of the building to which it relates. No person shall place or cause or permit to be placed, on any floor of any building, any greater load than the safe load thereof, as correctly estimated and ascertained as herein provided.

Sec. 5. Moving of Buildings—

No building of any class shall be moved from one lot to another within any Fire district or from the "Urban" district into any Fire district, unless it be of a class and meets with all the requirements of a new building of a class permissible to be erected within such Fire district.

Sec. 6. Location of Moved Buildings—

The situation plan of the building to be moved to a new location, as prescribed in the previous section, shall be first approved by the Inspector before the building is moved.

Sec. 7. Buildings Moved Through Streets—

No building of any class which has deteriorated or has been damaged more than thirty-three (33) per cent of its original strength shall be moved through the streets of the city of Cleveland.

Sec. 8. Demolishing Buildings—

When plans and detailed statements are filed in the Department of Buildings for the erection of a new building, if an existing building or part of an existing building is to be demolished, such fact shall be stated in the statement so filed.

In demolishing any building, story after story shall be completely removed. No material shall be placed upon the floor of any such building in the course of demolition, but the brick, timbers and other structural parts of each story shall be lowered to the ground immediately upon displacement, and all rubbish shall be dropped through a closed chute if such building is over two (2) stories in height or is located within thirty (30) feet of the street line. The owner of any building or the architect, builder or contractor in charge of any building, structure, premises, wall, platform staging or flooring to be demolished shall give not less than twenty-four hours' notice to the Department of Buildings of such intended demolition.

Sec. 9. Removal, Etc., of Unsafe Buildings—

The owner of any building, staging, or other structure, or anything attached to or connected with a building or other structure which shall be unsafe so as to endanger life, shall, immediately upon written notice received from the Inspector, cause the same to be made safe and secure, or taken down, and where the public safety requires immediate action, the Inspector may enter upon the premises with such assistants as may be necessary, and cause the said structure to be secured or taken down without delay and the passersby to be protected at the expense of such owner.

TITLE XXIX.

AREA OF BUILDING SITE—LIGHT, VENTILATION AND FIRE.

Sec. 1. Per Cent of Occupancy—

All buildings shall be so placed upon their building site as to secure proper natural light and ventilation for the occupants thereof, and for this purpose, as well as for better fire protection, no building of the First and Second Grades hereafter to be erected shall occupy more than ninety-five (95) per cent of a corner lot or site, or more than ninety (90) per cent of any

TABLE-F

I	II	III	IV	V	VI	VII	VIII	IX	X	XI
BUILDING HEIGHT IN STORIES	TOTAL HEIGHT IN FEET		INNER COURT		INTERIOR COURT		LIGHTED COURT		VENT AND AIR SHAFTS	
	MIN.	MAX.	FT.	SQ. FT.	FT	SQ. FT	FT.	SQ. FT	FT.	SQ. FT
ONE	12 TO	18	6	60	3.0	30	12	240	2	12
TWO	18 "	30	6	90	3.0	50	15	360	2	18
THREE	30 "	45	9	122	4.5	60	18	488	3	24
FOUR	45 "	60	12	216	6.0	108	24	864	4	32
FIVE	60 "	75	15	338	7.5	169	30	1352	5	50
SIX	75 "	90	18	486	9.0	243	36	1944	6	72
SEVEN	90 "	105	21	662	10.5	331	42	2648	7	98
EIGHT	102 "	120	24	864	12.0	432	48	3456	8	128
NINE	114 "	136	27	1094	13.5	547	54	4376	9	162
TEN	126 "	150	30	1350	15.0	675	60	5400	10	200
ELEVEN	138 "	164	33	1634	16.5	817	66	6536	11	242
TWELVE	150 "	178	36	1944	18.0	972	72	7776	12	288
THIRTEEN	162 "	192	39	2282	19.5	1141	78	9128	13	338
FOURTEEN	174 "	200	42	2646	21.0	1323	84	10584	14	392
FIFTEEN	186 "	200	45	3038	22.5	1519	90	12152	15	450
SIXTEEN	198 "	200	48	3456	24.0	1728	96	13824	16	512

FOR THE DEFINITION OF COURTS SEE TITLE I interior lot or site, and no building of the Third, Fourth and Fifth Grades shall occupy more than ninety (90) per cent of a corner lot or site, or more than sixty-five (65) per cent of any other lot or site, except as otherwise provided in the subsequent sections of this Title, or sections of other titles of this Code.

Sec. 2. Measurement of Occupancy—

For the purposes of this Title the measurements of occupancy of lots shall be taken at the ground level, except that where buildings have no basement and the cellar ceiling is not more than two (2) feet above the curb level, the measurements as to the per centage of lot occupied, or of courts and yards and courtyards may be taken at the level of the second tier of floor beams, provided that in buildings having a basement or cellar and where inner courts or yards are employed for light or ventilation a portion of such courts or yards extending through the first story shall be left unbuilt upon; such portion shall have a length of the full width of the court or yard, and a width equal to the minimum width as given for the width of courts and yards under their respective sections.

Sec. 3. Measurement of Courts—

Courts, yards and light wells shall be measured in the clear of all projections into them, except roof leaders, wall coping, sills and open fire escapes not exceeding four (4) feet in width, and when the total area of a court is prescribed the area of the obstructions shall be deducted, but in no case shall the distance between a wall and any obstruction be less than the minimum given for their respective heights.

Sec. 4. Courts and Shafts—

The following table gives the minimum widths and areas of the various courts and shafts employed to secure proper light and ventilation for the adjoining rooms in any building from one (1) to sixteen (16) stories high:

Sec. 5. Explanation of Table F—

Column I.—Gives the height of buildings in terms of stories.

Cols. II and III.—Gives the minimum and maximum height of a building in feet for their respective story heights, or the heights of courts above their lowermost level.

Cols. IV, VI, VIII and X.—Give the minimum width in feet.

Cols. V., VII, IX and XI.—Give the minimum area in square feet for the respective courts and shafts.

The maximum depth of any interior, inner or lighted court shall not exceed four (4) times its tabulated width, and where the depth of such courts is increased beyond the maximum limits, six (6), twelve (12) and twenty-four (24) inches respectively, shall be added to the tabulated width for every twenty-five (25) foot increment, or part thereof, of increase in length in excess of such maximum depth.

For definitions of courts and yards, see Title I.

Sec. 6. Line and Outer Courts—

For the widths of line courts or outer courts between wings of the same buildings, or between buildings on the same or adjoining lot, having windows in one side only, use Column VI, and Column IV, Table F, if there are windows on both sides. If such courts exceed sixty-six (66) feet in depth, the entire courts shall be increased six (6) and twelve (12) inches respectively, for every thirty-three (33) feet or fraction thereof in excess of sixty-six (66) feet; but if such courts form courtways between streets and alleys to yards or interior courts the length of the outer courtway shall be taken from the outer building lines to the nearest of such intervening court or yard, otherwise it shall be measured through.

Sec. 7. Outer Recessed Courts—

Whenever any part of an outer court changes its initial direction or extends in such a direction as not to receive direct light from the street or yard, the length of such part shall never exceed the width of said part measured at the point at which the change of direction commences. Where an outer court is less in depth than the minimum width prescribed by this Title, its width may be equal to but not less than its depth, provided, that such width is never less than four (4) feet in the clear.

This exception shall also apply to each offset or recess in outer courts. And no window except windows of water-closet compartments, bath-rooms or halls shall open upon any offset or recess less than six (6) feet in width.

Sec. 8. Outer and Inner Courts—

Nothing contained in the foregoing sections concerning inner, interior or outer courts shall be construed as preventing windows at the angles of said courts, provided, that the running length of the wall containing such windows does not exceed six (6) feet, provided further, that there shall be not less than eight (8) feet between windows on opposite sides of courts, except in frame buildings. See Sec. 5, Title XVIII.

Where a court starts at the level of the second tier of beams in whole or in part and the bottom of said court is a skylight over a store or hall, proper access to the top of said skylight shall be provided and said skylight shall be so arranged as to be easily cleaned.

Sec. 9. Sky-Lighted Courts—

Interior sky-lighted courts when used for passageways through a building or for the purpose of furnishing light and ventilation for the adjoining rooms of a building, shall be of the dimensions given in Columns VIII and IX, Table F, provided that the skylight thereof shall have a glazed area of at least three-quarters (3-4) of the court area and also contain louvred or adjustable ventilating windows of not less than one-tenth (1-10) of the area of the whole court measured at the floor line of the topmost story below the roof, provided, that the rooms adjoining such a court face directly on a street, alley, yard, or interior or outer court, or connect with a well lighted and ventilated public hall or a room having windows in such street, alley, yard or court.

The measurements of such courts shall be between balcony or cornice lines in the clear and may be of a clear height throughout or may be offset or terraced where balconies are employed at every story height, provided no such offset is less than three (3) feet wide.

If such sky-lighted court springs from the second tier of beams, or the first floor above the ground floor of a building, such court shall, if stairs and elevators are not located at the extreme ends of such courts, have air intakes of double the size prescribed in Sec. 17 for inner courts introduced at the extremes. All intakes and ventilating louvres shall be so arranged as to be left open during the times of occupancy of the building and easily controlled in the event of fire.

Sec. 10. Open Light Wells—

Open light wells or courts shall not be permitted to extend through from floor to floor above the second floor in any building whose occupancy falls under Divisions c, d, e and f of the Second grade; or in any non-fireproof building over two (2) stories high. Where light is required in the interior of a building occupied as an aforesaid division of the second grade, light wells therein shall be of no less dimensions than an inner court and shall have either the entire opening on each floor covered over with floor lights of equal strength of the floor, or be enclosed for the entire height with wired glass set in metallic frames, provided that if such a light well or any lighted court enclosed with incombustible materials contains stairs, landings, balconies or passageways the whole shall be of I, II or III class construction throughout.

Sec. 11. Yards of Interior Lots—

Behind every building hereafter to be erected upon an interior lot there shall be a yard extending across the entire width of the lot, the depth of the yard, to be measured outside of the building or porch lines. shall not be less than ten (10) feet for the first forty (40) feet of building height, and shall measure one (1) foot for every additional twelve and one-half (12 1-2) feet of height of building or fraction thereof; provided, that when a through lot extends to a public or private alley or courtway the yard space for through buildings of the Third and Fourth grades shall be proportioned as a line court between the building and the rear line of the lot. For buildings of other grades, see Sections 22 and 26.

Sec. 12. Yards of Corner Lots—

The depth of a yard behind any building situated upon a corner lot shall be not less than ten (10) feet in every part, except that where such lot is less than one hundred (100) feet in depth, the depth of the yard may be not less than ten (10) per cent of the depth of such lot, but shall never be less than five (5) feet in every part, nor less than the minimum width of an outer lot line court as provided by Section 6. Where a corner lot is more than fifty (50) feet in width, or if such corner lot extends to a courtway not less than ten (10) feet wide, or if such courtway is less than ten (10) feet wide and the building is set not less than five (5) feet from the centre of the courtway, the yard for that portion in excess of fifty (50) feet shall conform to the provisions of Sec. 11—Interior Lots.

Sec. 13. Court Yards in Through Lots—

Wherever separate buildings are to be erected upon opposite ends of a through lot extending from street to street or from street to an alley as hereafter prescribed, and said lot is not over one hundred (100) feet deep and the buildings are not over forty (40) feet high, there shall be left a courtyard not less than ten (10) feet deep between the wall lines, and not less than twenty (20) feet if such lot is over one hundred (100) feet deep, and their depth shall be increased one (1) foot for every additional ten (10) feet or fraction thereof of increase of height of either or both buildings. When the width of a court yard measured between lot lines exceeds fifty (50) feet the depth of such courtyard shall be increased two (2) feet for every twenty-five (25) feet or part thereof of increase of width of such court yard.

Sec. 14. Court Yards on Interior Lots—

Whenever more than two (2) buildings are placed upon the same through (or interior) lot, the space between the rear of the buildings facing the street or alley shall be deemed an interior lot; between each building there shall be left a court yard of no less dimensions than those given for the minimum between buildings on lots over one hundred (100) feet deep, as prescribed in Sec. 13, provided, that there is an open courtway not less than ten (10) feet wide extending through from one (1) of the streets to the farthest courtyard from that street, provided, that such farthest courtyard also has an open fireproof passageway not less than three (3) feet wide and seven (7) feet high leading directly through to the other street, but if two (2) such buildings are situated on an interior lot the courtway shall extend from the rear yard to the street; provided further, that no building to be erected on an interior lot shall be of a greater height than three (3) times the width of one (1) of the courtyards, but in no instance shall the height of any building exceed the maximum prescribed under Title III.

Sec. 15. Air, Light and Vent Shafts—

Columns X and XI, Table F, give the minimum dimensions of all light, air and vent shafts to interior non-living rooms—halls, bathrooms and water-closet compartments—and the light wells of interior stairways not facing any street or court.

(**a**) When buildings of large undivided floor spaces, used for workshops or factories in whole or in part, or in combination with stores, exceed the limits of depth prescribed in Sections 6 and 8, Title XXXI, the "dead" ends of interior and corner rooms or centers of through rooms with long walls shall be provided with vent shafts as follows:

The widths of such shafts shall be not less than the widths given for courts in Columns IV and VI, Table F, and their length shall be at least one-tenth (1-10) the depth of the room or length of the wall; provided, that if located as an "inner" court there shall be at least one (1) such shaft for every eighty (80) feet or part thereof of width of the building, or one (1) for every forty (40) feet or part thereof of width of building if located as an "interior" court.

(b) Interior stairways, water-closet compartments, halls and elevators, if not in conflict with any other provision of this Code, may be grouped around such vent shafts in any building, provided, that their location in buildings as above described does not obstruct the windows adjoining the narrowest dimension of any room.

Sec. 16. Air and Vent Shafts, Construction—

All air and vent shafts, except in buildings of the VII class, shall be constructed of incombustible material and may be enclosed on four (4) sides, but shall not be roofed over in any way. When such shafts are enclosed on all four (4) sides they shall be provided with air intakes. See Sec. 17.

Sec. 17. Air Intakes—

All inner and interior courts and air or vent shafts over thirty (30) feet high shall be provided with one (1) or more air intakes or horizontal ducts at the bottom of not less than three (3) per cent of the required court or shaft area leading directly to the street, yard, or court or court yard, or court way open to the street or yard.

The minimum size of the air intake for an inner court if used as a passageway, shall be twenty-one (21) square feet, i. e., three (3) feet in width and seven (7) feet in height; the minimum size for the intake of an air duct shall be no less than four (4) square feet.

The above given areas are for ducts in the clear, but if they are protected at their inlets and outlets with open grilles or transoms, the total area of the openings in such grilles shall be no less than the required three (3) per cent of the court or shaft area, and the ducts shall be increased throughout their lengths to correspond to the face of grille.

Air intakes or ducts shall be left open at all times, but so constructed as to admit the regulation of the air supply at all times and to be easily cleaned.

Sec. 18. Air Shafts for Pipes—

Nothing in any section under this Title shall be so construed as to prevent the employment of independent air shafts to contain exhaust pipe or main steam and hot water heating risers, or the main soil and waste pipe or water pipe leading to attic tanks, or the main artificial or natural gas risers, or the main electric conduits for power, heat or light, or belting, or other transmission of power, and such shafts shall be employed in all buildings of divisions (a) and (b) of the Second grade and all divisions of the Third grade over four (4) stories high.

Such air shaft shall start in the basement and project not less than six (6) feet above the roof and shall be covered over with a ventilated skylight, but need not be provided with an air intake, but shall be provided with fire doors and be of such internal dimensions and construction as to secure and afford proper facilities for inspection and repair of all lines therein contained.

Sec. 19. Sanitary Cellars or Basements—

All cellars or basements shall be ventilated from at least two (2) opposite sides through windows in bulkheads or areas. Where areas or courts are employed for the lighting or ventilation of basements or cellars which are used for other than storage purposes, such areas or courts shall never be less than three (3) feet in width in the clear, extending at least nine (9) inches on each side of the extreme windows of the portion so occupied, and not less than six (6) inches below the level of the floor.

Sec. 20. Drainage and Protection—

All areas, courts or shafts shall be carried at least six (6) inches below their adjoining floor levels, and shall be paved or concreted or covered with incombustible roofing and provided with court or yard drains connected with the main drainage of the building. And where they adjoin streets or any other public spaces, or any passageway, courts or lot lines, they shall be further protected by iron fences or guard rails not less than forty-two (42) inches high. Where there are no intervening areas the lower section of all bulkheads and window openings within four (4) feet of the grade shall be properly protected by substantial iron guards, provided, that no area adjoining such basement rooms shall be covered over with a horizontal grating.

Sec. 21. Living Rooms in Basements—

When basements are used for living rooms the adjoining areas shall open up into yards, or courts, the required dimensions of which shall be measured at the grade line of the building.

In damp, clayey or undrained soils, such basements shall have clear areas all around the building, as prescribed in Sec. 19, provided, that in no case shall any living room be placed in any basement in which the back water line of the public sewer or the highest ground water level extends within three (3) feet of the basement floor level. See also Sec. 25, Title XXXIV.

Sec. 22. Alleys, Streets and Courtways—

For the purpose of this Title any alley sixteen (16) feet or over in width will be considered a street to a depth of sixty-six (66) feet back from a street or open public space wider than thirty (30) feet. Beyond this depth of sixty-six (66) feet, along the side of a lot and all public alleys or courtways along the rear of a lot, such alley shall be deemed to be a court and in determining the necessary court space, if such court is one of the principal sources of light and ventilation, the base of measures shall be taken eight (8) feet from the opposite side of such alley or courtway and computed as a line court adjoining such base line, provided, that nothing under this section shall permit the encroachment of any parts of a building upon public property in conflict with Parts III and IV of this Code.

Sec. 23. Driveways and Passageways—

Courtways or passageways, if not in conflict with any other provision of this Code, when used as driveways shall never be less than seven (7) feet wide and not less than three (3) feet if used as a footway, but no court or yard shall contain a fire escape or the rear entrance of a building when two (2) are required, unless the same has a courtway not less than four (4) feet wide, on the ground level, leading directly to the street.

Nothing contained in this section, if the conditions warrant, shall prevent the accessibility of such courtways or interior courts or yards from the street by driveways or passageways through the buildings, provided, they are built of fireproof construction and do not exceed sixty-six (66) feet in length; such driveways and passageways shall be kept open at all times during the occupancy of the buildings, except in buildings of divisions (a) and (b) of the Second grade, the passageways may be made through the entrance lobbies with doors opening into them from the courts. In such an event the air intakes shall be made through a Mezzanine story just above such lobby.

Sec. 24. Buildings on Courtways—

No building of the First, Second, Third or Fourth grades shall be located with its principal front upon any alley unless the same is at least thirty (30) feet distant from the opposite side of the alley; nor shall there be more than three (3) such buildings located upon any interior, or four (4) on any through lot unless the court or courtway is at least thirty (30) feet wide and have sixteen (16) foot alleyways at each end extending directly through to nearest adjoining streets.

Sec. 25. Width of Lots—

The minimum width of lot for the conditions prescribed under this Title is forty (40) feet; on lots less than forty (40) feet there shall not be more than one (1) building behind a building facing the street on the same lot.

Sec. 26. Through Buildings—

Buildings of divisions (c) and (d) of the Second grade may cover the entire area of a lot, except an interior lot, for such of the stories beginning with the lower as are used for store or salesroom purposes only, provided they comply with all the requirements of light and ventilation prescribed in Title XXXI for depth of rooms.

Sec. 27. Encroachment on Reservations—

No buildings now or hereafter erected shall be altered or enlarged to encroach upon the minimum required space reserved for light and ventilation or for fire protection purposes, either on the same or on adjoining premises. All walls built adjoining interior property lines shall be "dead." or solid fire walls, except when built in conformity with Sec. 6, and any such wall having window or other openings in conflict with the aforesaid Sec. 6 or Sec. 8, shall, under the provisions of this Code, be deemed an encroachment upon the aforesaid minimum required reserved space, but nothing in this section shall be so construed as to prevent an owner from enclosing any interior or outer line court by "dead" walls alog the lot lines, provided the measurement for such courts is taken from the inner face of such enclosing wall. See also Sec. 9, Title XXXIII.

TITLE XXX.

AREAS OF BUILDINGS—FIRE PROTECTION.

Sec. 1. Undivided Floor Spaces—

The following table gives the maximum area in square feet of undivided floor space to be contained in the various classes of buildings over two (2) stories high when occupied exclusively on all floors by stores, salesrooms, warehouse, workshop and factories:

TABLE G.

Class of Buildings.	1	2	3	4	5
I, II, III	25000	20000	15000	12500	7500
IV, V	20000	15000	12000	9000	5000
VI	12500	10000	7500	5000	2000
*VII	10000	7500	5000	2800	750

*For outside the fire limits only.

Col. 1.—For free-standing buildings or buildings bounded on four (4) sides by streets or other open spaces. If any one of the open spaces is less than thirty (30) feet wide, Col. 2 shall be used.

Col. 2.—Buildings bounded on three (3) sides by streets or other open spaces. If any one of the spaces is less than thirty (30) feet wide, Col. 3 shall be used.

Col. 3.—Buildings situated on a corner formed by the intersection of two (2) streets or other open spaces, or on a through lot. If any one of the spaces is less than thirty (30) feet wide, Col. 4 shall be used.

Col. 4.—Buildings situated on an interior lot.

Col. 5.—Buildings on any lot which are to contain articles which are easily ignited or deemed hazardous by the Fire Insurance Underwriters.

Sec. 2. Areas Increased—

The areas of undivided floor space in buildings may be increased as follows: If of the I class, unlimited; if of the II or III class, seventy-five (75) per cent; and if of the other classes, fifty (50) per cent. of the amounts given in Table G, provided that all stairways and elevators are enclosed in fireproof shafts, as prescribed in Part V of this Code, and such buildings are equipped throughout in each and every story with sprinkling devices approved by the Fire Department of the City of Cleveland; provided further that no such building is over eight (8) stories or one hundred and twenty (120) feet high.

Any building not exceeding two (2) stories in height may have floor areas prescribed under this Section without being equipped with such sprinkling device.

Sec. 3. Areas Decreased—

The areas of undivided floor space in buildings shall be decreased by at least fifty (50) per cent. of the amounts given in Table G when the building, above the first or ground floor, is used or occupied by any other division or grade of occupancy than for stores, salesrooms, warehouse, workshops and factories, provided, that in no instance shall any wooden building occupied by tenements or living rooms above the first floor, contain a greater area than thirty-three (33) per cent. of the amounts given in Table G, provided further, that in buildings occupied by hazardous risks, as shown in Col. 5, there shall be no sleeping or living rooms on any floor, and when a watchman's room is provided it shall be on the floor nearest the ground and directly accessible from the outside. The undivided floor space in all such buildings except those of the VI and VII classes occupied as prescribed in this Section may be of the areas given in Table G, if equipped with an approved sprinkling system (see Part IV of this Code) in the basement and the first or ground floor, and where the occupancy is extra hazardous under the rules of the Fire Department, the amounts given in Col. V, Table G, shall be reduced by fifty (50) per cent.

Sec. 4. Areas Changed—

After the issuance of a permit therefor, it shall be unlawful to alter or change the plans for new buildings or remove the interior division walls of old buildings by which the floor areas will be increased to exceed the amounts given in any section of this title.

Sec. 5. Division and Fire Walls—

Unless otherwise prescribed, buildings of larger floor areas than given in the previous sections under this Title, and all buildings sheltering several different grades or divisions of grades of occupancy under one (1) roof, shall be subdivided by brick walls as prescribed under Titles VIII and IX, which walls, in buildings of the IV, V, VI and VII classes shall be carried down to the foundation. And the buildings so sub-divided shall be treated, as regards stairs and fire escapes, the same as two (2) or more separate buildings. The fire division walls in "skeleton" constructed buildings may be the same as prescribed for party walls under Title XII.

Sec. 6. Openings in Division or Fire Walls—

If openings are to be inserted in dividing walls, as before described, or in dividing walls between fireproof and non-fireproof buildings, or parts of buildings occupied by hazardous risks, or by different divisions or grades of occupancy, they shall have automatic, self-closing, fireproof doors or shutters on each side of the opening, provided that there is not more than one (1) such opening in any fifty (50) foot length of wall or part thereof, nor shall there be more than three (3) such openings in any fire wall on any floor.

The sills between the doors or shutters shall be of brick, iron, stone or concrete and shall rise at least one (1) inch above the floor on each side of each opening. The lintel over the door shall be made of brick, iron or stone, and the wall between the two (2) door frames shall be covered with a coat of plaster at least one-half (1-2) inch thick or other incombustible material.

Oak timber used for door sills and not less than eight (8) inches thick by the full width of the wall in which such sills occur, shall, for the purpose of this Code, be counted incombustible, but no other form or use of wood construction shall be considered incombustible; but no opening through a fire wall shall be permitted between, or an addition made to, any building of the I, II and III classes, and buildings of the IV, V and VI classes exceeding three (3) stories in height, or any building of the VII class.

Sec. 7. Runways—

If the connections between buildings, or different parts of buildings, is made by a fireproof passageway or runway, the openings at each end may be provided with one (1) fire door only.

Sec. 8. Subdivisions of Areas—

Nothing under this Title shall be construed so as to permit the use of fire walls to divide greater areas than given in Sections 1 and 2, on account of the subdivision of the maximum areas into rooms or spaces by partitions. The distance between fire walls shall be measured in the clear, irrespective of partitions, as prescribed in Sec. 48 (j), Title I.

All buildings containing the maximum number of square feet of undivided floor area on the first floor and occupied by different divisions of the same or other grades on and above the second floor, shall have all necessary enclosing and sub-division walls above the first floor carried on walls or fireproofed iron columns down to the foundations.

The columns and horizontal supports under such walls in buildings of the IV, V and VI classes, shall be covered with fireproofing as designated for buildings of the IV class under Title XVII, and all such supports under walls passing through any floor in buildings of the I, II and III classes shall be fireproofed as prescribed for buildings of the I class under Title XVI.

TITLE XXXI.

AREAS OF ROOMS IN BUILDINGS—LIGHT AND VENTILATION.

Sec. 1. Occupancy of Site—

All buildings shall be so placed upon their building site as to secure proper natural light and ventilation for the occupants thereof, and for the purpose of this Title, in connection with Title XXIX no building whose interior is left in one (1) space as a whole, or is divided or partitioned off into rooms or spaces of limited area, with or without enclosed passageways or other intervening rooms or spaces between, shall be deemed in a proper sanitary condition unless each room or space shall have one (1) or more properly proportioned, adjustable glazed doors or windows, or both, or ventilated skylights, opening directly into an open air space of a street, yard, lawn or court, subject to the regulations prescribed under this Title, provided, that air or vent shafts shall only be used in connection with interior non-living rooms, halls, water-closets and bath rooms.

Sec. 2. Heights of Rooms—

The heights of rooms to comply with the conditions of this Title shall never be less than the following, as noted under each grade of occupancy:

For the First Grade, twelve (12) feet; for the Second Grade, divisions (a) and (b), nine and one-half (9 1-2) feet; divisions (c), (d), (e) and (f), eleven (11) feet, except that basements or cellars may be ten (10) feet if occupied only for storage and packing rooms; for the Third Grade, eight and one-half (8 1-2) feet; for the Fourth Grade, eight (8) feet.

Sec. 3. Unit of Measure of Rooms—

The unit of measure for the depth of properly lighted rooms shall be the height of the window-head above the floor, provided, that the height of such window-head is not over seventeen and one-half (17 1-2) per cent of the minimum height of a room, as established in Sec. 2, below the ceiling line; and, provided further, that no girder or other obstruction extends more than ten (10) per cent of the height of the room below the ceiling line or covers more than ten (10) per cent of the ceiling area of such room; except attic rooms, which shall not have more than a fifty (50) per cent reduction in any of its ceiling parts.

Sec. 4. Windows—Proportions—

The unit of measure for the necessary window area of a room, measured for openings in the clear, between sill lines and stops, and for the glazed surface of a door or window, measured between putty stops, shall be in fractional parts of the floor space to be lighted, and no rooms except warehouses or storage rooms shall have a total window area opening to the outer air of less than one-tenth (1-10) of the floor space, and if in any such room there be but one (1) window such window shall contain no less than twelve (12) square feet for rooms eight (8) feet high; fourteen (14) square feet for rooms nine (9) feet high, and two (2) square feet shall be added for every foot or part thereof of increase of the room height.

In proportioning the dimensions of windows in conformity with the provisions of this title that portion of any window, the sill or stool line of which lies below twenty-five (25) per cent of the minimum given heights of rooms in Sec. 2, shall not be counted as part of the necessary window area.

Sec. 5. Normal Depth—

The normal depth of a room shall be two and one-half (2 1-2) times the window-head height above the floor. The width of a room, unless otherwise provided, shall never be less than seven (7) feet in the clear, and if used as a sleeping room, office or individual workshop by not more than one (1) adult it shall not be less than twelve (12) feet in depth.

Sec. 6. Interior Rooms—

Any room with windows on one (1) side only shall be deemed properly lighted for any grade of occupancy, if the depth does not exceed two and one-half (2 1-2) times the height of the window-head above the floor, but in no instance shall such depth of an interior room exceed four (4) times the window height without having doors and transoms or proper air and vent-shafts in opposite wall, as provided for non-living rooms, in Sec. 15, Title XXIX, provided, that the window areas are proportioned as given in Sec. 7.

Sec. 7. Window Areas—

The window areas for properly lighted rooms shall never be less than the following as given in terms of the fraction of floor space to be lighted for each grade of occupancy; the smaller fraction is for rooms lighted from unobstructed continuous air spaces or streets thirty (30) feet or more in width, and the larger is for exterior air spaces of less width than a street, i. e., alleys, courts, courtways, lawns, yards, or passageways less than thirty (30) feet in width, but of no less width or area than prescribed for Courts and Yards in Title XXIX for the respective heights of buildings, provided, that the court is no narrower than the window-head height above the floor.

For rooms in buildings of the First Grade, divisions (a) and (b), one-eighth (1-8) and one-sixth (1-6), division (c), one-sixth (1-6) and one-quarter (1-4); for Second Grade, division (a), one-ninth (1-9) and one-seventh (1-7), division (b), one-eighth (1-8) and one-sixth (1-6), division (c), one-tenth (1-10) and one-eighth (1-8), division (d), one-twentieth (1-20), divisions (e) and (f), one-sixth (1-6) and one-quarter (1-4); for Third and Fourth Grades, one-tenth (1-10) and one-eighth (1-8).

Sec. 8. Depth of Unobstructed Rooms—

Buildings when erected for use as stores, workshops, and factories (warehouses excepted), located on streets and courts and lighted as prescribed in Sec. 7, the interior space of which remains undivided or unobstructed except by columns and the necessary elevators and stairs so placed as not to interfere with the proper transmission of light and air, will be deemed sufficiently lighted and ventilated, subject to other prescribed conditions of their special occupancy, when their depths or proportions do not exceed the following number of times the window-head height above the floor.

(a) For through buildings from street to street or from a street to an unobstructed space of equal width of a street, ten (10); if one end has a court, alley, or yard of less width than the street, eight (8).

(b) For corner buildings facing two (2) streets or a street and an open space at least as wide as the street, six (6) from each street.

For corner buildings facing a street and a court, yard, courtway, or alley of less width than the street, six (6) deep from the street and four (4) deep from the other dimension.

(c) For corner buildings facing three (3) streets, fourteen (14) in its longest and eight (8) in its shortest dimension.

If one (1) or two (2) of the sides faces an alley or open space less than the width of the street, the shortest dimension shall not exceed six (6), and if the principal source of light is from two (2) parallel streets with an alley along the other side, the shortest dimension shall not exceed four (4).

(d) If a building faces four (4) streets, the dimensions shall not exceed sixteen (16) in each direction; if lighted by two (2) opposite streets and situated between two (2) alleys, courts or yards of less dimension than the street, the dimension from street to street shall not exceed sixteen (16) and the other dimension twelve (12); if the building faces two (2) intersecting streets and two (2) intersecting alleys or spaces narrower than the street, the dimension shall not exceed twelve (12) in either direction.

Sec. 9. Larger Floor Spaces—

Buildings, the uses of which require spaces of greater depth than the above, shall be provided with light shafts and courts of the dimensions given in the various sections relating to such courts; and all large floor spaces containing "dead" ends or corners shall have air shafts as prescribed in Title XXIX, to secure a proper circulation of air, provided, that no rooms in such buildings shall have less window area than as prescribed under Sec. 7, and nothing in this or any other section of this title shall be construed as to permit the use of floor spaces of greater area than as prescribed under Title XXX.

Sec. 10. Limit of Depth and Artificial Light and Ventilation—

In no instance shall a room or space wherein fixed desks, tables, work benches or machines are to be placed be so constructed as to bring the center of the extreme individual desk, table, work bench or machine at a greater distance from the windows than herein prescribed, i. e., where windows face streets or open unobstructed air spaces two and one-half (2 1-2) times, and in courts one and one-half (1 1-2) times the height of the window head above the top of the desk, tables, work bench or working table of machines, without proper provision for artificial lighting, provided that all rooms, including basements, in buildings of the First and Second Grades, where the conditions of occupancy are such as to not furnish a sufficient number of cubic feet of fresh air, by natural means, shall be provided with some approved artificial means of supplying the necessary amount of fresh air or change of air, in accordance with the sanitary requirements of each special grade of occupancy as established by the best modern health authorities. See also Sec. 17.

Sec. 11. Windows in Water-Closet Compartments and Bathrooms—

In every building hereafter erected the total window or skylight area in every water-closet compartment or bath-room shall not be less than three (3) square feet, and no such window or skylight shall be less than one (1) foot in width, measured between stop beads.

When any water-closet compartment, bath or toilet room contains more than three (3) plumbing fixtures, either a water-closet, urinal, slop sink, bath tub, Turkish slab or washstand, the window or skylight area given above shall be increased one (1) square foot for each additional fixture in excess of three (3) and when a skylight is provided it shall contain an automatic ventilator or ventilators of an area of at least twenty-eight (28) square inches for each fixture.

All water-closet compartments or toilet rooms located in large rooms as prescribed in Sec. 8, but not adjoining windows or ventilated skylights, shall be artificially ventilated through ducts of the same size as provided for skylight ventilators and as provided in Part VI of this Code.

Sec. 12. Alcoves—

All alcove rooms used for sleeping or living rooms shall have an archway cennecting with an outer room of not less height than the door openings and not less than one-half (1-2) the side of the room in width, but never less than twice the width of an interior door, provided if such room has but one (1) door it shall have at least one (1) window of not less than one-tenth (1-10) the alcove floor area in addition thereto, which window shall be connected with and be easily opened into the outer room, or passage having exterior windows or ventilating skylights of the area prescribed in this Title and opening directly on the outer air space or court as heretofore regulated by Title XXIX.

Sec. 13. Doors and Transoms—

The doors and transoms prescribed under Title XXI shall, if possible, be so located as to insure a proper circulation of air between the interior halls and their adjoining rooms unless otherwise prescribed in this Code. Doors leading from public to private halls, not separately lighted at their ends, shall have the upper panels glazed and transoms adjustable.

Sec. 14. Adjustable Windows, Doors and Transoms—

All transoms over doors, and the upper part of at least one-fourth (1-4) of the window area in any room, including one-fourth (1-4) of the glass area of that portion of window surface above the transom rail of shop or store fronts, shall be so designed as to be easily opened and adjusted in any position and all windows must also be arranged as to be easily cleaned without jeopardizing life or limb. All doors in buildings of the First and Second Grades, except in the private rooms and offices thereof, and all entrance or exit doors in buildings of the Third Grade shall be so arranged as to swing outward.

Sec. 15. Apportioning of Floor Spaces—

In proportioning the number of occupants of any room, the following minimum number of square feet of floor area per occupant shall be allowed in the apportionment:

For school rooms for children, fifteen (15) and for adults twenty (20); for hospital rooms for children, fifty (50), and for adults seventy-five (75); for workshops, factories and offices, for day workers, twenty-five (25), and for night workers forty (40). No living room shall contain less than one hundred and twenty (120) square feet nor shall any sleeping room contain less than eighty (80) square feet.

Sec. 16. Apportionment According to Cubic Contents—

In the proportioning of the occupancy of a room the amount of cubic space shall not be construed so as to admit a reduction of the floor space as given in the previous section, and the minimum number of cubic feet to be allowed for each occupant shall be as follows:

For sleeping rooms, three hundred (300) for children and five hundred (500) for adults; for offices, workshops and factories, three hundred (300) for day workers and four hundred and eighty (480) for night workers; for schools for children two hundred (200) and for adults three hundred and fifty (350); for hospitals six hundred (600) for children and one thousand (1,000) for adults.

No living apartment or dwelling shall be so overcrowded that there shall be less than six hundred (600) cubic feet of air, outside of closets and bathrooms, for each individual occupying the apartment or dwelling.

Sec. 17. System of Ventilation—

Every hall, auditorium or room of every building hereafter erected for, or converted to use as a schoolhouse, factory, workshop, theatre or place of public assembly or entertainment shall have in continuous operation while occupied a system of ventilation so contrived as to provide twenty-five (25) cubic feet per minute of outer air for each occupant and for each light other than an electric light.

Or when any room or space is so proportioned as not to allow each occupant, if children six hundred (600 cubic feet, and if adults one thousand (1,000) cubic feet of fresh air per hour, or less than three (3) times such amounts, in sick rooms or hospitals, by natural means without exposure to improper air currents, then such rooms shall be ventilated by artificial means.

TITLE XXXII.

BUILDINGS IN FIRE LIMITS.

Sec. 1. Fire Limits—

The term when used alone includes both of the districts into which the fire limits of the City of Cleveland are divided, i. e., the "Inner" (congested business) and "Outer" (transitional) districts, as established by ordinance. All portions of the city limits not within the fire limits shall be known as the "Urban" district.

Sec. 2. Buildings Within the Fire Limits—

Every building hereafter erected or altered, within the fire limits shall be of the I, II, III, IV, V, or VI class, except as otherwise provided for under this Title. The provisions in this Title shall apply to buildings and structures, whether temporary or permanent, within the fire limits, as the said fire limits now are or may hereafter be established.

Sec. 3. Additions to Brick Buildings—

Within the fire limits no brick building shall be enlarged or built upon unless the exterior walls of said addition or enlargement be constructed with walls of incombustible materials; provided, however, that such brick building may be raised, lowered or altered under the circumstances, and in the manner provided for in this Title. The provisions of this section shall also apply to all buildings of the I to VI classes inclusive.

Sec. 4. Raising to Grades—

If any building shall have been built before the street upon which it is located is graded, or if grade is altered, such building may be raised or lowered to meet the requirements of such grade. But no frame building within the fire limits, more than two (2) stories in height now used as a dwelling, shall hereafter be raised or altered to be used as a warehouse, factory workshop or stable.

Sec. 5. Temporary Frame Buildings—

Temporary observation stands, booths, and platforms may be erected in accordance with Title XXXV, upon permits issued by the Inspector of Buildings. One (1) story frame buildings and sheds may be erected under the building permit for the uses of builders, within the limits of lots whereon buildings are in course of erection, or on adjoining vacant lots.

Sec. 6. Fuel and Shelter Sheds—

One (1) enclosed frame shed for fuel or water closet, or one (1) open front shed for wagon purposes or vehicle storage, may be erected on the rear of any lot or premises, and such sheds shall not exceed eleven (11) feet in height at the highest point thereof and not to cover or exceed, including all sheds or rough frame buildings on the premises, two hundred and fifty (250) square feet of ground area for any twenty-five (25) feet street frontage of lot. Such sheds shall not encroach upon the space set apart for light and ventilation, as provided in Title XXIX, and if they be placed at a distance of thirty (30) feet or more from the nearest dwelling or brick building, except in the "Inner" district, they may be roofed with combustible material. No chimney shall be erected in such sheds, and no portable forge or heating appliance of any kind will be permitted therein.

Sec. 7. Frame Buildings, Repair of—

Every wooden or frame building within the fire limits, with a brick or other front, which may hereafter be damaged to an extent not greater than one-half (1-2) the value thereof, exclusive of the value of its foundation at the time of such damage, may be repaired; but if such damage shall amount to more than one-half (1-2) of such value thereof, exclusive of the value of the foundation, then such building shall not be repaired or rebuilt, but shall be torn down. The amount and extent of such damage shall be determined upon the examination of the building by the Inspector of Buildings.

Sec. 8. Repair of Roofs—

The roof of any building higher than one (1) story, covered with shingles or other combustible material, which shall have been damaged either in whole or in part of either side of the ridge by any cause whatever more than (50) per cent of the original value, shall be replaced by a roof as hereinafter set forth; and in all cases when the roofs are replaced or raised the covering shall be made with incombustible roof covering.

Sec. 9. Explanatory—

The preceding sections are general in their application to buildings in the "Inner" and "Outer" districts. The following sections relate to buildings not strictly of the VII class, hereafter erected, altered or changed in the "Outer" district of the fire limits.

Sec. 10. Arbors—Hot-Houses—

Arbors, hot-houses or conservatories, if unattached to dwellings, may be built of frame if not over fourteen (14) feet high at the highest point.

Sec. 11. Open Shelter Sheds—

Open mill constructed shelter sheds not exceeding twenty-five hundred (2,500) square feet in area may be constructed of wood having a roof of incombustible material. Such shed shall not be over eighteen (18) feet high from the ground to the highest point of roof; roof to be supported on sufficient number of posts or piers. Such sheds shall have no enclosing walls or wooden floors or ceilings. No fence is to be used for the back or side of same, nor shall such shed be nearer than ten (10) feet to any other building.

If it is intended to enclose an open shelter shed, the enclosing walls must be made of brick or hollow tile, of the thickness as set forth in Titles VIII and IX.

Sec. 12. Buildings on Docks—

Where docks are built over the water, frame buildings for receiving and storing freight may be built thereon, provided the walls of said building do not exceed eighteen (18) feet in height, and provided the supports are of "mill construction" and the exterior of said building shall be covered with corrugated iron or other incombustible material, and it shall have an incombustible roof.

Sec. 13. Grain Elevators—Sheds—Ice Houses—

Elevators for the storage of grain, and sheds for the storage of coal, bark or lumber, and ice houses, may be built of wood frame along a water front or a railroad; such elevators, sheds and ice houses shall have their roofs covered with some incombustible material, and the enclosures to be subject to the approval of the Inspector. Elevators for storage of grain may be covered with metal sheathing, but all such sheds or storage buildings shall be at least thirty (30) feet distant from any other building.

Sec. 14. Brick Veneer—

Two (2) story buildings used exclusively for dwellings, and all one (1) story buildings may be built of frame and veneered with a brick, stone or hollow tile wall not less than four (4) inches thick, provided all such buildings are covered with incombustible roofing material. Where a pitched roof is used in such cases, the brick casing is not to exceed twenty-four (24) feet in height from the grade line to eaves, and the highest part or ridge of the roof is not to exceed thirty-five (35) feet above the grade. Where a flat roof is used, the highest point of same must not exceed thirty (30) feet in height above the grade, and in such cases the brick casing may extend to bottom of roof joists; from bottom of roof joists the side walls must be carried up at least two (2) feet higher than top of roof, with frame forming fire walls, such fire walls to be covered with incombustible material. Gables of such two (2) story buildings are to be covered with incombustible material. Plaster on metal lath will be acceptable as such material. The attic story of above described two (2) story buildings may be divided into rooms if used in connection with the second or first story. Should the attic be intended to be used for a separate dwelling, such building will be considered a three (3) story tenement building. See Titles III, VIII and XXXIV.

Sec. 15. Frame Dwellings—

If any block of lots fronting between two (2) street lines situated within the "Outer" district has seventy-five (75) per cent of the buildings located thereon constructed of frame, any vacant lot situated therein may have a frame building with incombustible roof covering placed thereon, provided the same be not more than two (2) stories and basement in height and is to be used for dwelling purposes only. The restrictions contained in this section shall not prohibit one (1) story and basement frame dwelling houses from being increased one (1) additional story in height.

Sec. 16. Alterations and Raising—

Within the "Outer" district it shall not be lawful for the owner of any brick dwelling with one (1) brick thick enclosing walls, or of any wood building already erected that has a peaked roof, to raise the same for the purpose of making a flat roof thereon, unless the same be raised with the same kind of material as the building, and unless such new roof be covered with fireproof material, and provided that such building, when so raised, shall not exceed forty (40) feet in height to the highest part thereof. In regard to raising frame buildings for the construction of cellars or basements, see Secs. 6 and 7, Title XVIII.

Sec. 17. Material Used—

All such buildings must exceed twenty-five (25) feet in height to the peak of the gable or lowest point of a flat roof before the said alteration and raising. In increasing the height of any such building the entire area which such building covers may be raised to a uniform height. If any such building has an extension of less width than the main building the same may be increased in width to the full width of the main building, with the same kind of material and to the same height as the main building.

Sec. 18. Extension—

Any such frame building may be extended either on the front or rear to a depth of not more than fifteen (15) feet and not more than the width of the building, either of such extensions shall not exceed three hundred and sixty (360) square feet in area and not more than two (2) stories and a basement in height, with the same kind of material as the building. Provided, that no more than one such addition as above prescribed, either front or rear, shall be made if such addition increases the area of the prescribed limits established in Table G, Title XXX; and provided further, that if any extension to any frame building is to be of greater area than as above prescribed or is nearer to any other building or to a lot line than the minimum distance established for frame buildings in Title XVIII, then all extensions and additions shall be of the VI class, as prescribed in Section 3.

Sec. 19. Row of Frame Buildings—

Any frame building situated in a row of frame buildings may be increased in height to conform to the height of adjoining buildings, if not over forty (40) feet high.

Sec. 20. Piazzas and Balconies—

Piazzas or balconies of wood on buildings other than frame buildings which do not exceed eight (8) feet in width, and which do not extend more than three (3) feet above the second story floor beams, may be erected provided a permit be granted therefor. In connected houses such piazzas or balconies may be built provided the same are open on the front and have brick ends not less than eight (8) inches thick, carried up above the roof of such piazza or balcony, and coped with stone. The roofs of all piazzas shall be covered with some incombustible roofing. Frame buildings already erected may have placed on any story piazzas, balconies or bay windows of wood, the roofs of which may be covered with the same material as the roof of the main building.

Sec. 21. Convention Halls—

Temporary buildings or structures for fair exhibition or convention hall purposes may be erected of frame construction in the "Outer" fire limits, provided that such buildings are at least thirty (30) feet distant from any other building and the details of the construction conform to the conditions laid down in this Code and providing said structures shall be removed within six (6) months from the date permit is issued, or sooner upon the order of the City Council.

Sec. 22. Stables and Workshops—

Frame stables and workshops not over four hundred (400) square feet in area, and one and one-half (1 1-2) stories not exceeding twenty-five (25) feet in height, may be erected upon the rear of any lot in the "outer" district, if erected not in conflict with any other provision of this Code, provided, that the roofs of all such buildings are covered with incombustible roofing.

TITLE XXXIII.

STABLES AND SHEDS.

Sec. 1. Location of—

The location of any barn or stable or any building of the Fifth grade upon any lot shall be subject to the same regulations respecting their light and ventilation, courts, courtways, yards and driveways, as prescribed under Title XXIX; provided that no stable shall occupy more than eighty (80) per cent. of the width of an interior lot, unless there be provided a yard space as prescribed in Sec. 11 of the aforesaid Title; if the width is less than eighty (80) per cent. the space between the stable and the rear line of the lot shall be regulated as a line court, as prescribed in Sec. 6 of the aforesaid Title.

Sec. 2. Frame Stables—

No frame or wooden barn or stable located on an interior lot shall exceed the area given in Column 5, Table G, of Title XXX, if more than one (1) story high, and no frame stable arranged for keeping more than four (4) animals as prescribed in Sec. 3, shall be located within thirty (30) feet of any building of the First, Second, Third or Fourth Grade, and such stables, if of VI class construction, shall not be located nearer than twenty (20) feet to any building of the First, Third or Fourth Grade or any building of Divisions (a), (b) and (c) of the Second Grade, provided that stables arranged for keeping not more than four (4) animals may be located within fifteen (15) and ten (10) feet respectively of the buildings above prescribed.

Frame stables shall also be subject to all regulations prescribed for frame buildings of the Fourth grade in Title XVIII as to their location along lot lines and in reference to each other or any other frame building of the Fifth and Sixth grades.

Sec. 3. Ventilating Shafts in Stables—

Every barn or stable which is or hereafter will be arranged for the keeping of more than four (4) horses, four (4) mules, or four (4) cattle, shall be provided with a ventilating shaft of sufficient size and height and suitable provision shall be made for the drainage of the same, and where such barn or stable is situated upon any lot abutting upon a street provided with a public sewer, it shall be provided with tight floors and drained into the sewer. See Part VI of this Code.

Sec. 4. Exits from Stables—

Every livery stable, or stable in which animals are kept in stalls, shall have an exit at each end thereof, of not less than six (6) feet in width, and wherever runways or inclines are necessary they shall be so arranged as to be of use in taking animals from the building, and which shall not be less than six (6) feet in width, and no exit shall be blockaded by wagons or other vehicles. When animals are kept in a basement or on the second story, proper exits, doors or inclines shall be provided. Such basements shall be well lighted and ventilated, and properly drained, and, where it is impossible to connect such drainage with a sewer the use of basement for stabling purposes shall be prohibited.

Sec. 5. Construction of Stables—

No buildings shall hereafter be erected, altered or reconstructed for stabling animals below or above the first or ground floor unless the building be made of Mill construction, and if animals are to be stabled above the second floor the building shall be of fireproof construction throughout.

Sec. 6. Manure Pits—

All barns or stables, unless otherwise directed by the Board of Health, which house four (4) or more animals, as prescribed in Sec. 3, shall be provided with substantial water-tight brick, concrete or masonry manure pits with walls properly coped and bedded in cement; and if used under driveways they shall be covered with heavy wrought iron doors, flush with the pavement or surface, sufficiently strong to carry heavily loaded carts or other vehicles.

All boarding, express, livery, sales or transfer stables, and all barns where more than ten (10) horses or mules or cattle are kept, shall have an air and water-tight brick or concrete manure vault, which shall be provided with clean-out doors, and all such vaults shall be emptied at least once in forty-eight (48) hours. All underground manure pits and air-tight vaults shall be provided with ventilation by means of a flue inside of stable and extending above roof of same, as prescribed for chimneys in Title XIX, and be drained by sewer connection. No manure pit or vault shall be located beyond the street lines in any public property.

Sec. 7. Carriage Houses—

A carriage house separated from a stable by a brick wall from the foundation to six (6) inches above the roof and having no communication with a stable, shall not be subject to the above restrictions.

Sec. 8. Permits for Erection of Stables—

No permit shall be issued for the erection of any livery, sale or boarding stable, intended to be used as such, located at a place where the conducting of such business would be unlawful under the terms of this Code; it shall also be unlawful to locate any new building nearer to any existing stable than the minimum distance a stable must be located from other buildings as prescribed in this Title.

Sec. 9. Sheds and Outhouses—

Open sheds, outhouses or shelter sheds, as prescribed in Title XXXII, or any building of the Sixth grade having more than one (1) side enclosed, shall, for the purposes of this Code, be deemed an enclosed building and next to the enclosed sides, to be better safeguarded against fire, its location in reference to other buildings shall be in conformity to the provisions of this Title, and, when not in conflict with any other provisions of this Code, said sheds, if not more than one (1) story high, with their roof line below the second floor window level of the adjoining building, if it is without a basement, may, on the open sides, extend not to exceed twenty-five (25) per cent. into the space reserved for courts, yards or courtyards, but no such building shall extend into or beyond the minimum limits reserved for light and ventilation or passage, or for fire protection. Sheds or out-houses, if not over ten (10) feet in height and used exclusively for water-closet or privy compartment enclosures, may take up twenty-five (25) per cent of the yard or courtyard space, but the combined area of occupancy of all sheds, out-houses and shelter sheds shall never exceed fifty (50 per cent. of the space reserved for courts, yards or courtyards.

TITLE XXXIV.

TENEMENTS AND DWELLINGS.

For the purpose of this Title the words "Tenement" or "Dwelling" means any house or building, used or designed to be used, in whole or in part, for any purposes prescribed for buildings of the Third and Fourth Grades under Title II.

Sec. 1. New and Old Tenements—

All tenements hereafter erected shall comply with the following regulations; and if any existing building, whose occupancy complies with the provisions of buildings of the Third Grade, be so damaged by fire or other cause (including ordinary wear) so that at any time its value be one-half (1-2) or less than one-half (1-2) of its original value (exclusive of the value of the foundations) such building shall not be repaired or rebuilt except in conformity with the provisions of this Title applicable to new tenements.

Sec. 2. Plans and Specifications—

When the plans and specifications for the erection or alteration of a tenement or building of the Third Grade are presented with the application for a permit to build, the Inspector shall insist that the following provisions are complied with in conformity with all structural, fire protective and sanitary requirements prescribed under all previous Titles or other Parts of this Code.

Sec. 3. Limit of Heights—

The height of a tenement, exclusive of any roof apppendages, shal not exceed one and one-half (1 1-2) times the width of the widest adjoining street, court-way or open space upon which it fronts, and no existing tenement shall be increased beyond such height, provided, that no such tenements shall exceed eight (8) stories and a basement, or nine (9) stories without a basement, or one hundred and twenty (120) feet in height. The basement, if occupied by apartments, shall have not less than four (4) feet and six (6) inches of its height above the grade, and if such building has a cellar only the first or ground floor level shall not exceed three (3) feet in height above the grade.

Sec. 4. Fireproof Construction—

Any building of this grade more than five (5) stories and a basement, or seventy (70) feet in height, but not over one hundred and twenty (120) feet in height, as established in Sec. 3, shall be of I, II or III class construction.

Sec. 5. Semi-Fireproof Construction—

Any building of this grade, if more than four (4) stories, but not exceeding the minimum prescribed limits of the previous section in height, shall be of I, II, III or IV class construction, with the cellar and basement construction including the floor system of the first story or ground floor built fireproof.

Sec. 6. Ordinary Construction—

(a) Tenement buildings of VI class construction shall not exceed four (4) stories in height, nor the total given in Table A, Title VIII; provided, that such tenements do not house more than two (2) families or contain more than two (2) apartments on each floor (See Sec. 16) ;and if over two (2) stories and a basement or thirty-two (32) feet in height, the division walls between each apartment and the stair halls shall be made ot brick; the floor shall be of double thick seven-eighths (7-8) inch stock, with two (2) layers of asbestos felt between, and the basement ceilings shall be plastered with hard plaster on metal or wire lath; and every suite of two apartments shall be separated by fire or party-walls one and one-half (1½) brick thick between any single or double suite of apartments. Such apartments shall have division walls not exceeding twenty-five (25) feet apart for each apartment, and brick fire division or party walls shall not exceed fifty (50) feet between centers, nor shall each suite contain more than two thousand (2,000) square feet.

(b) If a Tenement of VI class construction contains stores or sales rooms as modified under this Title, then such basement or cellar shall not be over two (2) feet above the ground, shall contain no living rooms, and the subdividing walls shall be of brick through every story; if two (2) or more stories in height the basement ceiling or first floor shall be of IV or V class construction, and first floor ceiling shall be plastered on metal lath, or the ceiling of the first floor may be covered with metal ceiling plates, or shall be of V class construction.

Sec. 7. Frame Construction—

All frame Tenements hereafter constructed shall not exceed three (3) stories without a basement, or forty (40) feet in height, and no tenement so constructed shall contain more than one (1) family on a floor. All such tenements shall be separated by party or fire walls of brick not less than one (1) brick thick. Frame tenements two (2) stories high shall not have more than two (2) families or apartments above the first or ground floor without brick division walls between each two (2) or less suites of rooms, provided, that no frame tenement shall contain any living rooms in the third floor or attic, or in the basement if the first floor is used for any other purpose as modified under this Title, nor shall such frame tenements exceed twenty (20) feet in width, if single, or forty (40) feet in width if two (2) tenements are on a floor; nor shall they be longer than sixty (60) feet, or have an area of over twelve hundred (1,200) square feet for each apartment without being separated by dead brick division or party walls.

Sec. 8. Frame Tenements—

No existing wooden frame tenement within the fire limits shall be enlarged either by adding to its height or to its superficial area.

Sec. 9. Fire Escapes—

Every non-fireproof or frame Tenement three (3) or more stories in height shall be provided with fire escapes as provided under Part IV of this Code. In every case each separate apartment shall have direct access either through a room or private hall opening directly upon it to at least one (1) such fire escape unless such apartment has access (without passing through any other apartment) to at least two (2) flights of stairs leading to the ground, one of which is outside the building.

Sec. 10. Stairs and Stair Halls—

(**a**) The stairs and stair halls in all tenements more than three (3) stories and a basement or four (4) stories high shall be constructed of fireproof material throughout. (See Title XXI). All windows in stair halls opening on inner courts or shafts shall be of good quality fireproof or wired glass.

(**b**) In every new non-fireproof tenement all stair halls shall be enclosed on all sides with walls of solid masonry. All glass in such stair halls shall be good quality fireproof or wired glass except where same opens into a street, alley, outer court or yard. There shall be no movable transoms or sash openings from any such stair hall to any other part of the building. This section shall not apply to tenements which are not more than three (3) stories and a basement high with only one apartment on each floor.

Sec. 11. Main Entrance Hall—

In every non-fireproof tenement, except where there is only one suite of apartments on each floor, the entrance hall shall be enclosed with solid masonry walls and with ceilings of incombustible materials, and shall comply with all of the conditions of the preceding sections of this Code as to the construction of stair halls. See also Title XXI.

Sec. 12. Walls and Openings—

All bay windows and all shafts and courts in new tenements shall have their walls of brick or other fireproof construction throughout, except as modified in Sec. 13 (a) of Title XVII. All openings in vent shafts, as well as in shafts for light and ventilation, shall have either fireproof closing doors or else shall be glazed with fireproof or wired glass in metal frames, provided, however, that the above provisions of this section shall not apply to enclosures about elevators or dumb waiters in a well hole of stairs where the stairs themselves are enclosed in brick or stone walls and are constructed entirely of fireproof materials. Fire walls of solid masonry of a thickness prescribed in Titles VIII and IX, extending from the ground to the roof, shall be erected between each set of apartments; provided, however, that the wall between apartments above the first story extending from a main stair hall to the outer wall of the building may jog or set over to some point toward the center of the building to provide or allow for an even distribution of space of the rooms adjacent to the same; provided, further, that the said wall above the first story, if supported on iron or steel beams, which shall extend from the brick wall surrounding the main stair hall to the outer wall of the building at each succeeding story, then the said brick wall so supported on iron or steel beams shall not of necessity be over eight (8) inches in thickness, but all brick walls between apartments which extend from the ground to the roof and above the first story of an apartment building, not supported as above described in this Section, shall be of the thickness prescribed under Title VIII.

Sec. 13. Dimensions of Tenements—

In addition to the general requirements of occupancy of lots and proportions of courts and rooms and stairs given under their respective Titles the following three (3) sections shall be applicable alike to dwellings, tenements, or all other living apartments.

Sec. 14. Minimum Widths—

No single dwelling or tenement shall be less than fourteen (14) feet wide if detached or singly in a block with a separate entrance, nor less than twelve and one-half (12 1-2) feet if attached and there is a common entrance for each suite of two (2) apartments for any double house.

Sec. 15. Number of Rooms—

Every living apartment in which cooking is done, exclusive of the water-closet and bath rooms, shall have not less than two (2) rooms, one of which shall have not less than eighty (80) square feet of floor area and the other not less than one hundred and twenty (120) square feet of area, and every suite of apartments in a tenement containing a greater number of rooms shall have at least one (1) room of one hundred and twenty (120) square feet area.

Sec. 16. Division Walls—

In non-fireproof tenements the maximum number of rooms, exclusive of water-closet and bath rooms, in any suite of apartments, shall not exceed eight (8), unless there be a brick division or fire wall between such rooms or some of them.

Sec. 17. Number on Lots—

There shall be not more than one (1) tenement on an interior lot nor more than two (2) on a through lot. Such tenements shall have a through public hallway as per Title XXI; nor shall there be any other grade of building behind or in front of such tenements unless all the conditions for yards, courts and passageways as established under Titles XXIX and XXXI are complied with.

Sec. 18. Block of Tenements—

Where a block of tenements, or a terrace of dwellings in a continuous row are situated on any lot at right angles to a street, such buildings shall be deemed to be buildings erected on courtways as prescribed under Section 24, Title XXIX.

Sec. 19. Old Buildings Converted into—

No room in any building or tenement now in existence shall hereafter be constructed, altered, converted or occupied for living purposes unless it contains a window having a superficial area not less than one-twelfth (1-12) the floor area of the room, which window opens upon a street or alley or upon a yard or court having a sectional area of not less than twenty-five (25) square feet; or unless such room adjoins another room in the same apartment, which other room has such a window opening upon such a street, alley, yard or court, and between which two (2) adjoining rooms there is a sash window having at least fifteen (15) square feet of glazed surface, the upper half of which is so made as to open easily. Furthermore, no room in any now existing tenement which has no such window as aforesaid, opening upon a street or alley or upon a yard or court having a horizontal area of not less than twenty-five (25) feet, shall hereafter be constructed, altered, converted or occupied for living purposes, unless it contains a floor area of at least sixty (60) feet and also at least six hundred (600) cubic feet of air space; nor unless every part of the finished ceiling of such room be at least eight (8) feet distant from every part of the finished floor thereof; provided, that an attic room need be eight (8) feet high in but one-half (1-2) of its area.

Sec. 20. Additions to—

Any additional room or hall that may hereafter be constructed or created in an existing tenement shall comply in all respects with all the provisions of this Title as to size, arrangement, light and ventilation of halls, but no such addition or alteration shall be made which encroaches upon the minimum yard or court spaces as prescribed under Title XXIX.

Sec. 21. Private Hallways—

In every apartment of three (3) or more rooms in every new tenement, convenient access from the outer door of the apartment to every living room and to every bedroom, and to every room used as a bedroom, and to at least one (1) water-closet compartment shall be provided, otherwise than through any bedroom or room used as a bedroom.

Sec. 22. Lighting Public Halls—

In every tenement over two (2) stories high a proper light shall be kept burning in the public hallways near the stairs, upon the entrance floor and the floor above the entrance floor, every night during the year, from sunset to sunrise, and upon all other floors of the building from sunset until 10 o'clock in the evening.

For natural and artificial lighting of halls see also Titles XXI and XXXI and Part IV of this Code.

Sec. 23. Cellars and Basements—

All cellar and basement ceilings, unless the floor construction be fireproof, shall be plastered, and that part of the ceiling over the boiler or furnace, if not in conflict with the minimum provisions prescribed in Title XX, extending two (2) feet beyond in each direction, shall be covered with metal lath and shall be plastered with cement, and every cellar shall be ventilated from both ends and have its walls and ceiling whitewashed.

Sec. 24. Damp Proofing—

Every new tenement shall have all its walls and floors below the adjacent ground level made damp-proof and water-proof. Such damp-proofing and water-proofing shall run through the walls and up the same as high as the ground level and shall be continued through the floor. Such floor shall be properly constructed so as to prevent water and dampness from entering.

Sec. 25. Living Rooms in Basements—

In no now existing or new tenement shall any room in the cellar be constructed, altered, converted or occupied for living purposes; and no room in the basement of a tenement house shall be constructed, altered, converted or occupied for living purposes unless all the following conditions of this Title be complied with, and that at least one-third (1-3) the height of the basement shall be above grade at building; provided that in each case it shall be at least four (4) feet and six (6) inches above the street grade:

(**a**) Such room shall be at least eight (8) feet six (6) inches high in all now existing or new tenements in every part from the floor to the ceiling, except as provided for janitor's use only, which may be eight (8) feet.

(**b**) There shall be appurtenant to such room or apartment a water-closet conforming to the building and health regulations and ordinances of the City of Cleveland relating to water-closets.

(**c**) In any tenement of VI or VII class construction in which the basement is fitted up for offices, work rooms, or living rooms, other than for janitor's use, such basement shall be regarded as the first story of such tenement, and their height shall be measured from the basement floor level upwards. See also Sec. 21, Title XXIX.

Sec. 26. Water Supply—

Every tenement shall have water furnished in sufficient quantity at one (1) or more places on each floor occupied or intended to be occupied by one (1) or more families. The owner shall provide proper and suitable tanks, pumps or other appliances to receive and to distribute an adequate and sufficient supply of such water at each floor in the said house, at all times of the year, during all hours of the day and night.

Sec. 27. Sinks—

In every new tenement there shall be in each apartment at least one (1) proper sink with running water. In every now existing tenement there shall be on every floor at least one (1) proper sink with running water, accessible to all the tenants of that floor, without passing through any other apartment, if there be not one (1) such sink in each apartment. In no tenement shall there be woodwork enclosing sinks located in the public halls; the space underneath sinks shall be left entirely open.

Sec. 28. Water-Closets, Number of—

In every tenement hereafter erected there shall be a separate water-closet in a separate compartment within each apartment, provided that where there are apartments consisting of two (2) rooms there shall be at least one (1) water-closet for every two (2) apartments.

Sec. 29. Enclosure of—

Every water-closet and bath hereafter placed in any tenement shall be placed in a compartment completely separated from every other water-closet and bath; such compartment shall not be less than two (2) feet and four (4) inches wide, and shall be enclosed with plastered partitions which shall extend to the ceiling.

Sec. 30. Windows in—

In tenements hereafter to be erected water-closet compartments shall have a window opening directly upon the street or yard, or upon a court or vent shaft. See Title XXXI. In existing tenements such compartments shall have a window opening directly upon the street, or upon a yard not less than four (4) feet deep, or upon a court or shaft of not less than twenty-five (25) square feet in area, open to the sky without roof or skylight. Every such window shall be at least one (1) foot by three (3) feet between stop beads, and the entire window shall be made so as to readily open.

Sec. 31. Lighted by Skylight—

When a water-closet compartment is located on the top floor and is lighted and ventilated by a skylight over it, or is located at the bottom of a shaft or court of lawful size, and is lighted and ventilated by a skylight over it at the bottom of such shaft or court, no window shall be necessary, provided the roof of such skylight contains at least three (3) square feet of glazed surface and is so arranged as to readily open.

Sec. 32. General Toilet Rooms—

Nothing in this Title in regard to the separation of water-closet compartments from each other shall apply to a general toilet room containing several water-closets separated by dwarf partitions hereafter placed in a tenement, provided such water-closets are supplemental to the water-closet accommodations required by law for the use of the tenants of the said house. See also Part VI of this Code. No water-closet shall be maintained in the cellar of any tenement without a special permit in writing from the Board of Health.

Sec. 33. Artificial Lighting of—

Every water-closet compartment hereafter placed in any tenement shall be provided with proper means of lighting the same at night. If fixtures for gas or electricity are not provided in said compartment, then the door of said compartment shall be provided with translucent glass panels, or with a translucent glass transom, not less in area than four (4) square feet.

Sec. 34. Floor of—

The floor of every water-closet and bath room compartment shall be made waterproof with asphalt, tile, stone, or some other waterproof material; and such waterproofing shall extend at least six (6) inches above the floor, so that the said floor can be washed or flushed out without leaking. No drip trays shall be permitted. No water-closet fixtures shall be enclosed with any woodwork.

Sec. 35. Privy Vaults—

All privy vaults used in connection with any now existing tenement shall be replaced by individual water-closets located in separate compartments, constructed and set up conformably to Part VI of this Code. Whenever connection to a public sewer is in any way possible the Board of Health shall be the sole judge as to the possibility of such connection with a public sewer. At least one (1) such water-closet shall be provided for every two (2) apartments in each now-existing tenement, and these water-closets may be located in the yard if necessary. If so located, long hopper closets may be used, provided all traps, flush tanks and pipes be protected against frost. See also Sec. 9, Title XXIII.

Sec. 36. Plumbing Pipes—

In every tenement hereafter erected all plumbing pipes shall be exposed, when so required by the Department of Buildings. In all tenements hereafter erected where plumbing or othr pipes pass through floors or partitions, the openings around such pipes shall be sealed or made air-tight with plaster, or other incombustible materials, so as to prevent the passage of air or the spread of fire from one floor to another or from room to room.

Sec. 37. Catch-Basins—

The covers of all catch-basins in lots containing tenements shall be of stone or iron, and shall be placed in courts or yards flush with the surface of such courts or yards, so that access to such basins may be convenient.

Sec. 38. Wood Enclosures of Water-Closets and Public Sinks—

In all now existing tenements the woodwork enclosing all water-closets shall be removed from the front of said closets and the space underneath the seat shall be left open, and the woodwork enclosing sinks located in public halls or stairs shall be removed and the space underneath said sinks left open. The floors and wall surfaces beneath and around sinks and water-closets shall be maintained in good order and repair and if of wood shall be kept well painted with light colored paint.

Sec. 39. Shafts and Courts—Doors in—

In every tenement there shall be, at the bottom of every shaft and inner court, a door giving sufficient access to such shaft or court to enable it to be properly cleaned out. In shafts or courts of a less size than prescribed in Title XXIX, such door shall be fireproof and self-closing. Provided, that where there is already a window or door in a tenement house, giving proper access to such shaft or court, such window or door shall be deemed sufficient.

Sec. 40. Walls of Courts and Shafts—

The walls of all yard-courts, inner-courts and shafts unless built of a light color brick or stone shall be thoroughly whitewashed by the owner or shall be painted a light color by him, and shall be so maintained. Such whitewash or paint shall be renewed whenever necessary, as may be required by the Board of Health.

Sec. 41. Receptacles for Ashes, Garbage and Refuse—

The owner of every tenement shall provide for said building proper and suitable conveniences or receptacles made of incombustible material, for ashes, rubbish, garbage, refuse and other matter.

Sec. 42. Buildings Not to be Used as—

No building of which any part is used for the storage or sale of hay, straw, hemp, flax, shavings, burning fluid, turpentine, camphene, or any inflammable oil or other highly combustible substance, shall be occupied in any part as a dwelling, tenement, or lodging house, except that rooms for coachmen or grooms may be allowed in stables upon receiving special permit from the Inspector, when means of exit are deemed safe by him in case of fire.

TITLE XXXV.

PUBLIC AND QUASI-PUBLIC BUILDINGS.

Sec. 1. When Fireproof—

Every building hereafter to be erected and occupied as a building of the First Grade or of Division (a) of the Second Grade, the height of which exceeds forty (40) feet, and every other building over six (6) stories or eighty (80) feet in height, unless otherwise elsewhere prescribed in this Code, shall be built fireproof of either I, II, III or IV class construction, according to the height prescribed in Title III, provided that no building of the VII class shall be over two (2) stories or thirty (30) feet in height if occupied in whole or in part by Divs. a, b, c and d of the First Grade.

Sec. 2. Detention Buildings—

All buildings of Division (b) of the First Grade containing rooms in which the occupants thereof are forcibly detained or restrained either as invalids, imbeciles, perverts or prisoners, such rooms and parts of buildings shall be entirely of I class, except in asylums, or hospitals, or sanitariums for non-contagious diseases, they may be either I, II or III class construction throughout, and when such rooms form parts of non-fireproof buildings they shall be separated by fireproof corridors and stairways with fire walls on all sides thereof; no detention building shall be located within thirty (30) feet of any other building.

Sec. 3. Churches—

Frame churches containing rooms under the auditorium shall have all parts below the floor line of such auditorium built of VI. class construction; otherwise, the construction of churches shall be the same as provided for Public Assembly Halls under Title XXXVI. All non-fireproof spires or domes and the body of all frame churches shall be not less than twenty (20) feet from any other building, nor shall any one (1) story frame church, if without a basement, exceed six thousand (6,000) square feet in area. If the twenty (20) feet of vacant ground, before mentioned, as one of the conditions upon which the building of spires and domes having a combustible framework is permitted, shall be built upon, then such spire or dome shall be taken down.

Sec. 4. Hotels—

Every building hereafter erected or enlarged as a hotel for the accommodation of transient guests, and containing more than fifty (50) sleeping rooms above the first floor, shall be of I, II or III class construction. Buildings containing less than fifty (50) sleeping rooms above the first floor shall be governed by the regulations prescribed for the construction of Tenements under Title XXXIV, but no hotel hereafter erected shall exceed twelve (12) stories or one hundred and fifty (150) feet in height.

Sec. 5. Lodging Houses or Dormitories—

All buildings hereafter erected or altered to be used as a lodging-house or dormitory shall have their sleeping rooms proportioned according to Title XXXI. No existing building shall be converted into a lodging house when there is less than four hundred (400) cubic feet of air space for each occupant. The sleeping compartments shall be not less than two and one-half (2 1-2) feet apart and if arranged in tiers over each other, shall be free and open on the sides and ends, nor shall there be more than three (3) in any tier and no such tier of compartments shall be placed in any room which has windows on one (1) side only or in any room with unventilated dead ends.

Sec. 6. Roof Gardens and Observation Towers—

No roof garden or observation tower shall be placed upon the roof of any non-fireproof building over two (2) stories high, or on any portion of the stage of an assembly hall or theatre, and when placed upon the roof of a fireproof building the roof shall be proportioned to carry loads equivalent to those required for Public Assembly Halls. All railings or other accessories shall be of metal or other incombustible material, except that wooden gratings may be used on floors. Each such garden or tower shall be provided with separate entrances, enclosed fireproof stair-halls, elevators, and roof bulkheads leading directly to the street, as prescribed for gallery stairs in Title XXXVII.

Sec. 7. Observation Stands—

For the purposes of this Code, permanent or temporary observation stands shall be subject to the provisions of Title V, as given for Assembly Halls with fixed seats. For unsheltered stands or "Bleachers" allowance shall be made for exposure as prescribed in the aforesaid Title. Temporary stands shall have a factor of safety of not less than three and one-half (3 1-2); no such stand shall be erected upon the roof of any structure.

Sec. 8. Temporary Observation Stands—

No temporary wooden observation stand shall extend within ten (10) feet of any building or other structure, nor shall any such observation stand be more than five (5) rows of seats or over sixteen (16) feet in depth, nor exceed thirty-two (32) feet in length without a free passageway at least six (6) feet wide between the ends of two (2) adjoining stands. The lowermost seat of such stand shall not exceed four (4) feet in height above the sidewalk grade.

Sec. 9. Temporary Booths and Stands—

Temporary one (1) story wooden or canvas covered booths, sales stands or lunch counters under the same restrictions as to location and horizontal dimensions as prescribed in the previous section for observation stands shall be permissible in the "Outer" and "Urban" districts, provided that this shall not apply to canvas covered stands or tents for which special regulations exist.

Sec. 10. Factories and Workshops—

All buildings of Divisions (e) and (f) of the Second Grade over two (2) stories in height hereafter erected or altered, shall be of fireproof, semi-fireproof, or mill construction throughout, and where a manufacturing concern in its process of manufacture requires a machine shop, foundry, rolling mill, japanning, dipping or baking, wood-working, or lumber drying, arrangement shall be made whereby these different processes shall be in separate buildings with intervening courts as prescribed in Titles XXIX and XXXI, or in sections, subdivided by fire walls as prescribed in Title XXX.

Sec. 11. Skylights in Factories and Workshops—

Skylights in buildings of this Grade shall be of standard construction, and no frame or iron clad work shall be permitted in texas, saw-tooth sections, lanterns, monitors, or ventilating apparatus on roofs of buildings over two (2) stories high.

Sec. 12. Machinery and Refuse in Factories and Workshops—

All buffing and polishing wheels and mill machinery producing fine combustible dust shall be provided with metal blow pipes to convey lint and dust outside of buildings. All woodworking machinery, such as planers and sanders, shall be provided with a metal conveyor system to convey chips, shavings and dust to a fireproof vault or to feed direct to furnace of boiler with automatic shut-off in the conveyor near the furnace, provided that the provisions of this Section for metal conveyors shall not apply to machine wood-working shops, located in the Urban district, in which not more than five (5) persons are employed on any floor on or below the second floor. All such chips, shavings, dust, or other light combustible refuse or material shall be removed daily from any carpenter, cooper, wood-working, or other shop in which combustible refuse obtains.

Sec. 13. Fireproof Packing Vaults—

All buildings in which shavings, sawdust, chips, excelsior, loose paper, straw, or similar light combustible material is used for packing, shipping, or manufacturing purposes, shall be provided with a fireproof vault of sufficient capacity to contain all such material in the building, and all such shavings and light combustible material or refuse shall be removed from other parts of the building and stored in said vault at the close of each day's work.

Sec. 14. Lumber Drying—

Lumber drying, if done in buildings, shall be done in a room or section of the building separated from the balance of the building by walls of incombustible material. Said room or section to be thoroughly fireproof throughout.

TITLE XXXVI.

ASSEMBLY HALLS.

Sec. 1. Frontage—

Assembly halls or buildings of division (d) of the First grade as defined in Title II with seats for three hundred (300) to seven hundred and fifty (750) persons, shall have a frontage upon two (2) open spaces, of which at least one (1) shall be a street, and of which the other, if it is not a street, shall be a public or private alley or courtway, not less than eight (8) feet wide.

Assembly halls with a greater seating capacity than seven hundred and fifty (750) shall face not less than three (3) open spaces as prescribed for theatres, Title XXXVII.

Sec. 2. Construction—

Every building hereafter so built or altered, as to be used as an assembly hall with a seating capacity of less than seven hundred and fifty (750) persons, may be a VII class building when not conflicting with any other provisions of this code; if with a seating capacity of more than seven hundred and fifty (750) and less than fifteen hundred (1,500) persons, it shall be a I, II, III, IV, V or VI class building, and if with a seating capacity of more than fifteen hundred (1,500) persons, it shall be a I, II or III class building.

Sec. 3. Elevation of Main Floor—

No portion of the main floor of an assembly hall hereafter erected shall be elevated to a greater height above the adjacent sidewalk level than the following:

For a seating capacity of—

More than 200	50 ft.
More than 600	30 ft.
More than 1,000	8 ft.

Sec. 4. Stairs and Stairways—

Every hall seating five hundred (500) persons and not more than seven hundred and fifty (750) persons, shall have at least two (2) separate and distinct stairways for ingress and egress, the same to be placed as far apart as possible.

Every hall seating more than seven hundred and fifty (750) persons, and not more than one thousand (1,000) persons, shall have at least three (3) separate and distinct stairways.

All stairs for ingress and egress leading to any assembly hall or halls, shall be at least five (5) feet wide and provided with a hand rail on each side. The rise of the stairs shall not be more than seven and one-half (7 1-2) inches to each step, and the tread not less than ten and one-half (10 1-2) inches.

In addition to the above described stairway, assembly halls shall be provided with fire escapes as provided in Title XXXVII and in Part IV of this Code, provided that in assembly halls having a greater seating capacity than seven hundred and fifty (750), the aggregate width of such emergency exits which shall be provided for each floor, balcony and gallery of such building, shall be one-half (1-2) of that provided for the main exits, and no emergency exit, door or stairway shall be less than three (3) feet in width.

Sec. 5. Minor Theatres—

When the assembly hall or room of any academy, school, college or other educational institution, or any concert hall in any club house, hotel or other building of the First or Second Grade, or the lodge room of a temple or place of general assemblage of fraternal or other organizations, either for the exclusive use of members or for the public at large, contains a stage fitted with a curtain and a limited amount of scenery as prescribed in Sec. 66, Title XXXVII, such halls, rooms or places of assemblage shall, for the purposes of this Code, be deemed Minor Theatres, and such Minor Theatres shall comply with all the prescribed conditions for assembly halls and theatres in Title XXXVII, except as modified for the stage in that Title, provided, that no such assembly hall, room or place of general assemblage which has more than one (1) balcony, or in which the area of such single balcony exceeds one-third (1-3) the area of the main floor, shall be used as or converted into a Minor Theatre.

Sec. 6. Aisles, Passageways, Etc.—

The width of aisles, passages, lobbies, stairways and doors in assembly halls shall be proportioned and constructed in the same manner as prescribed for theatres. See Title XXXVII.

TITLE XXXVII.

THEATRES.

Sec. 1. New and Existing Buildings Used as—

No building hereafter erected or which at the time of the passage of this Code is not in actual use as an assembly hall or theatre, shall be used as such, or for public entertainment or gatherings in which stage scenery or apparatus is employed, unless it shall conform to the requirements of this Title. And all buildings which, at the time of the passage of this Code, are in use or in course of construction, as theatres, shall immediately thereafter comply with the requirements of Sections 4, 16, 17, 22, 23, 36, 37, 39, 40, 41, 48, 51, 52(a), 53, 54, 55, 56, 58, 59, 60, 62, 63, 64, 65 and 66 of this Title; provided that nothing in this section shall prohibit an owner, lessee or manager of an existing theatre instead of increasing the width of aisles, exits, lobbies and stairways as prescribed in Secs. 40, 43 and 44, from having the privilege of reducing the number of permanent seats until the same ratio between said widths and number of seats shall be established, and if such privilege be taken advantage of it shall be the duty of the Inspector of Buildings to make inspection and certify that said ratio actually exists.

Sec. 2. Construction of Theatres—

All theatres containing a seating capacity of seven hundred and fifty (750) or more people shall be of fireproof or of I, II or III class construction, except that in theatres containing a seating capacity of more than seven hundred and fifty (750) but less than one thousand (1,000) people, the stage and dressing rooms and all other rooms connected therewith only need be fireproofed as hereinafter prescribed, provided such theatre contains but one (1) balcony or gallery.

Structures of any kind, and for any purpose whatsoever, erected above the ceiling of any auditorium which has a seating capacity of five hundred (500) or more people, shall be entirely of fireproof construction.

The stage, auditorium, galleries, dressing rooms and all rooms prescribed in Sec. 16 of all non-fireproof assembly halls and theatres shall be of at least IV or V class construction.

Sec. 3. Connected with Other Grades—

When any building is connected with, is a part of, or contains, an assembly hall having a seating capacity of fifteen hundred (1,500) or more, or contains a theatre having a capacity of one thousand (1,000) or more, or when any building so connected with, being a part of, or containing any assembly hall or theatre, is more than sixty (60) feet in height, it shall be of either I, II or III class construction. And such building sixty (60) feet high or less shall be of at least V class construction, provided, that if the height does not exceed two (2) stories or thirty (30) feet, VI class construction may be used, if plastered on metal or wire lath.

Sec. 4. Fire Doors—

In all cases where fireproof construction is not used for the whole of such connected buildings, there shall be at each connecting opening double fireproof doors between such assembly halls and theatres and the building connected therewith. See part IV of this Code.

Sec. 5. Height of Floors—

The following limitations of floor levels in theatres shall be observed in all cases of new construction or alteration of existing buildings.

The floor level of the auditorium of theatres shall be maintained within the limits of the first story thereof, and where such floors are banked, the floor of the lowest bank shall not be above the sidewalk level. If the floor of the first story is level it shall not be higher than four (4) feet above the sidewalk level, but in no case shall the floor at the main entrance be more than two (2) feet above the building grade level.

Sec. 6. Exceptions—

Where an assembly hall or theatre of less seating capacity than five hundred (500) persons is located in a building of the I, II or III class construction and is provided with two (2) flights of stairs each five (5) feet wide in the clear, from the floor on which it shall be located to the ground, the provisions of the preceding section and of Sec. 3, Title XXXVI shall not apply thereto.

Sec. 7. Courts—

Every assembly hall and theatre shall, for service in case of emergency, be provided with an open court or courtway on the side not bordering on the street, where said building is located on a corner, and on both sides of said building where there is but one (1) frontage on the street. The width of such open court or courts shall not be less than eight (8) feet where the seating capacity is not over one thousand (1,000) people; above one thousand (1,000) and not more than fifteen hundred (1,500) people, nine (9) feet in width, and above fifteen hundred (1,500) people, ten (10) feet in width, to which one (1) foot shall be added for every five hundred (500) or part thereof in excess of two thousand (2,000) people.

Said open courts shall begin on a line with or near the proscenium wall and shall extend the length of the auditorium proper, to or near the wall separating the same from the entrance lobby or vestibule.

Sec. 8. Passageways—

If such court required in the preceding section be an interior court, a separate distinct passageway or corridor shall continue to the street from each open court through such superstructure as may be built on the street side of the auditorium, with continuous walls of brick or other fireproof materials on each side of the entire length of said passageway or corridor, and the ceilings and floors thereof shall be fireproof. Said corridors shall not be reduced in width to more than three (3) feet less than the width of the open court or courts, and there shall be no projection in the same; the outer openings shall be provided with doors or gates opening toward the street.

The said open courts, passageways or corridors shall not be used for storage or any purpose whatsoever except for exit and entrance from and to the auditorium and stage.

Sec. 9. Gradients—

(a) The level of said corridors at the street entrance of the same shall not be more than six (6) inches above the level of the sidewalk at such entrance. To overcome any difference of level in and between courts, corridors, lobbies, passages, auditorium and aisles on the ground floor, gradients shall be employed of not over one (1) foot in twelve (12) feet with no perpendicular rises; within the auditorium no steeper gradient than two (2) in ten (10) rising toward the exits shall be employed.

(b) Floors at all exits shall be so designed as to be level and flush with adjacent floors and shall extend for an unbroken width of not less than four (4) feet in front of each exit, and shall be two (2) feet wider than such exit.

Sec. 10. Auditorium Exits to Side Courts and Streets—

From the auditorium opening into the said courts or side street, there shall be not less than two (2) exits on each side, in each tier, from and including the parquet, and each and every gallery. One shall be located near the lowermost and the other near the highest level of each such tier.

Each exit shall be at least five (5) feet in width in the clear, and provided with doors of iron frames filled with wired glass or wood, and if of wood the doors shall be covered with metal. Said doors shall open outward, be hung from the inside corner of the jambs, and so constructed as not to project, when opened, beyond the outside face of wall and outer shutters shall not be permitted. See "Fire Doors," Part IV of this Code. All of said doors, and all other exit doors prescribed in this Title, shall open outwardly and be kept unlocked or open during performances.

In addition to the above, there shall be one (1) emergency exit of not less than three (3) feet width behind the boxes on the ground floor opening directly into each of the aforesaid courts or streets.

Sec. 11. Fire Escapes or Emergency Stairs—

There shall be balconies not less than four (4) feet in width in the said open court or courts at each level or tier above the parquet, on each side of the auditorium, of sufficient length to embrace the two (2) exits, and from said balconies there shall be stairways extending to the ground level, with a rise of not over eight (8) inches to a step, and not less than nine (9) inch tread. The stairway from the upper balcony to the next below shall not be less than thirty (30 inches in width in the clear, and from the first balcony to the ground not less than three (3) feet in the clear where the seating capacity of the auditorium is one thousand (1,000) people or less; three (3) feet six (6) inches in the clear, where above one thousand (1,000) and not more than fifteen hundred (1,500) people; and four (4) feet in the clear when above fifteen hundred (1,500) and not more than twenty-five hundred (2,500) people; and not less than four (4) feet six (6) inches in the clear where above twenty-five hundred (2,500) people. The stairway from the upper balcony to the next below shall increase proportionately, but no stairs from balcony to balcony shall be run next to the wall in conflict with the provisions of Part IV of this Code.

Sec. 12. Emergency Exits on Different Levels—

If the emergency exits and balconies as above prescribed are not of the same height above the court or street grade, each shall be provided with a separate balcony extending at least nine (9) inches beyond the sides of the exit opening and each of said balconies shall be provided with stairways extending to the ground level, as prescribed in Sec. 11, except that the widths of each stairway may be twenty-four (24), twenty-eight (28), thirty-two (32), thirty-six (36) and forty (40) inches in the clear in lieu of the dimensions fixed for similar service in the aforesaid section.

Sec. 13. Emergency Stairs on Side Streets—

Where one side of the building borders on a public highway there shall be stairways and balconies of like capacity and kind as heretofore mentioned, and the building set back or recessed far enough to admit of such stairways without using any part of the public street, alley or courtway; if situated so the building has three (3) street fronts, exits must be made from the three (3) street fronts, and constructed with recesses as above described.

Nothing in this Title shall prohibit the building of such emergency exits and stairways inside the walls of the building, provided they are surrounded by a fireproof partition not less than four (4) inches thick separating the exits and stairways from the audience room or auditorium, and otherwise enclosed as an outside stair as prescribed in Sec. 21, Title XXI.

Sec. 14. Construction of Emergency Stairs—

All the above mentioned balconies and stairways shall be constructed of iron throughout including the floors, and be of ample strength to sustain the load to be carried by them similar to those required under Part IV of this Code, and they shall be kept clear and free from snow and ice and all other obstructions.

Wherever any such emergency stairway passes over an exit door or window or other opening, said stairway shall be completely enclosed on the soffit for a space of five (5) feet greater in width than said opening, by iron, steel or other incombustible material.

Sec. 15. Stores in Front of Auditorium—

Nothing herein contained shall prevent the use of the front portion of any assembly hall or theatre building, for the purposes of offices or stores, provided that said offices or stores are not over thirty (30) feet in depth from the front building line and that said offices or stores are separated from the auditorium, galleries and exits as prescribed in Secs. 4 and 8.

Sec. 16. Workshop, Storage and Property Rooms—

No workshop, storage or general property room shall be allowed above the auditorium or stage, or under the same, or in any of the fly galleries.

All of said rooms or shops may be located in the rear or at the side of the stage, but in such cases they shall be separated from the stage by a fireproof wall, and the opening leading into said portions shall have fireproof doors on each side of the wall as prescribed for fire doors in Part IV of this Code.

Sec. 17. Theatres Prohibited for Certain Uses—

No portion of any building hereafter erected or altered, used or intended to be used for theatrical or other purposes as herein specified shall be occupied or used as a hotel, boarding or lodging house, factory or workshop or for storage purposes, exceppt as may be provided for in this Title. Said restriction relates not only to that portion of the building which contains the stage, but applies to the entire structure in conjunction therewith.

No store or room contained in the building or the offices, stores or apartments adjoining as aforesaid, shall be let or used for carrying on any business dealing in articles designed as specially hazardous in the classification of Fire Underwriters.

No lodging accommodations shall be allowed in any part of the building communicating with the auditorium or stage.

Sec. 18. Interior Walls Fireproofed—

Interior walls of fireproof materials shall separate the auditorium from the entrance vestibule, and from any room or rooms over the same, also from any lobbies, corridors, refreshment or other room.

Sec. 19. Inclosure of Stairs—

All stairways for the use of the audience, other than those leading from the first gallery, shall be enclosed with walls of brick, or fireproof materials, in the stories through which they pass, and the openings from said stairways to each tier shall be the full width of said stairway.

No door shall open immediately upon a flight of stairs, but a landing at least two (2) feet wider than the width of the door opening shall be provided between such stairs and such door. See also Sec. 5, Title XXI.

Sec. 20. Proscenium Wall—

The stage shall be separated from the auditorium by a brick wall and not less than two (2) bricks thick, or its equivalent (see Tables D and E, Title VIII), the entire width of the building and topped out at least four (4) feet, and in non-fireproof buildings six (6) feet, above the roof over the auditorium. There shall be no openings in this wall except the curtain opening, and not more than two (2) others to be located below the stage. These latter openings shall not exceed twenty-one (21) superficial feet each, with tinned wood and self-closing doors securely hung to rebates in the brickwork. See also Part IV of this Code. The wall over the curtain opening shall be carried by a fireproofed iron girder with a relieving arch above or by a brick arch of sufficient capacity and abutment or security on each side of the opening, to insure stability against the thrust of the arch.

Sec. 21. Proscenium Frame—

The moulded frame around the proscenium opening shall be formed entirely of fireproof materials; if metal be used the metal shall be filled in solid with non-combustible material and securely anchored to the wall with iron.

Sec. 22. Fireproof Curtain—

The proscenium opening shall be provided with a metal fireproofed curtain, or a curtain of asbestos or other fireproof material, sliding at each end in grooves, securely fastened to the brick wall and extending into such grooves to a depth of not less than six (6) inches on each side of the opening, or such asbestos or fireproof curtain may be provided with steel cable guides not less than one-quarter (1-4) of an inch in diameter, provided, that such curtain laps over the stage opening at the sides and top not less than twelve (12) inches and that attached to said curtain at the top and bottom for the full width thereof shall be wrought iron or steel pipe not less than one and one-half (1 1-2) inches internal diameter.

Said fireproof curtain shall be raised and lowered between each act or intermission and at the close of each performance, and remain closed until the beginning of the next performance, except during rehearsals, and be placed at least three (3) feet distant from the footlights at the nearest point, if gas is used.

Act drop curtains shall also be of fireproof material or material fireproofed.

Sec. 23. Ventilators—

In all theatres, skylighted ventilators constructed of incombustible materials, having openings equal in area to one-tenth (1-10) the area of the stage floor, having the whole top so constructed and counter-balanced to open automatically, operated by cords or wires from at least two (2) points near the exits on opposite sides of the stage, and having an arrangement of combustible cords or fusible connections to open the ventilating valves automatically by the action of fire on the stage, shall be placed near the center and above the highest part of the stage.

Skylight covering of ventilators shall have sheet metal frames set with double thick glass, each pane thereof measuring not less than three hundred (300) square inches, and immediately underneath such glass there shall be a wired netting. Wired glass shall not be used as a substitute for such netting.

Sec. 24. Construction of Stage Floor—

The part of the stage floor, usually equal to the width of the proscenium opening, used in working scenery, traps, or other mechanical apparatus, may be of wood, provided that the joists and flooring on the under side of such part in contour development shall be covered with tin or sheet metal, and that no flooring used thereon shall be less than one and one-quarter (1 1-4) inches in thickness.

Sec. 25. Fly Galleries—

The fly galleries entire shall be constructed of iron or steel beams filled with fireproof materials, and no wood boards or sleepers shall be used as covering over beams, but the said floors shall be entirely fireproof.

Sec. 26. Rigging Loft—

The rigging loft shall be fireproof, except the floor covering of the same, and the gridiron shall be of either wrought iron or steel construction.

Sec. 27. Stage Scenery—

All permanent stage scenery, curtains and decorations made of combustible material belonging to the building and all the woodwork on or about the stage shall be painted or saturated with some non-combustible material or otherwise rendered safe against fire and the finishing coats of paint applied to all woodwork throughout the entire building shall be of such kind as will resist fire.

Sec. 28. Roofs and Galleries to be Fireproof—

The roof over the auditorium and the entire main floor of the auditorium and vestibule, also the entire roof of the front superstructure over the entrance lobby and corridors, and all galleries and supports for the same in the auditorium, shall consist of iron or steel and fireproof materials, not including the use of wood floor boards and the necessary sleepers to which the same may be fastened, as in II or III class construction, but such sleepers shall not mean timbers of support.

Sec. 29. Gallery Fronts—

The fronts of each gallery shall be formed of fireproof materials, except capping, which may be of wood.

Sec. 30. Ceiling of Galleries and Auditorium—

The ceiling under each gallery shall be entirely formed of fireproof materials. The ceiling of the auditorium shall be formed of fireproof materials. All lathing, whenever used, shall be of wire or other fireproof material.

Sec. 31. Partitions and Furring—

The partitions in that portion of the building which contains the auditorium and the entrance and vestibule and every room and passage devoted to the use of the audience shall be constructed of fireproof materials, including the furring of outside or other walls. None of the walls or ceilings shall be covered with wood sheathing, canvas or any combustible material. But this shall not exclude the use of wood wainscoting to a height not to exceed six (6) feet, which shall be filled in solid between the wainscoting and the wall with fireproof materials. Nor shall canvas or other stuff be used for decorations, when the said materials are glued to the walls or ceiling.

Sec. 32. Dressing Room Partitions—

The walls separating the employe or dressing rooms from the stage and the partitions dividing the dressing rooms, together with the partitions of every passageway from the same to the stage and all other partitions on or about the stage, inclusive of the stairways, shall be constructed of fireproof material. All doors in any of said partitions shall be constructed of iron or wood as heretofore described. All shelving and cupboards in each and every dressing room, property room, or other storage room, shall be constructed of metal, slate or some fireproof material.

Sec. 33. Dressing Room Exits—

All employe or dressing rooms shall have two (2) independent exits to fire escapes in the open courts or leading directly to the streets. If windows are provided, the same shall not have fixed sashes, iron grills or bars. All dressing rooms shall be well ventilated. No dressing room shall be more than one (1) story below the street line, and if so located shall have windows and exits in the external walls opening into areas or courts leading direct to street lines.

Sec. 34. Distance Between Seats—

All seats in the auditorium, excepting those contained in boxes, shall be not less than thirty-two (32) inches from back to back, and twenty-two (22) inches in width on the main floor or twenty (20) inches by thirty (30) inches in any balcony or gallery, measured in a horizontal direction, and shall be firmly secured to the floor. No seat in the auditorium on the main floor shall have more than six (6) seats, in the first gallery or balcony, five (5) seats, and in the upper galleries, four (4) seats intervening between it and an aisle, leading direct without turn to an exit. In assembly halls the intervening number of seats as herein prescribed may be increased by one (1) if the seats are fixed, but shall be decreased by one (1) if the seats or chairs are movable, and in such cases the allotted floor space shall never be less than twenty (20) by thirty (30) inches per seat or chair.

Sec. 35. Platforms to Receive Seats in Galleries—

All platforms in galleries formed to receive the seats shall not be more than twenty-one (21) inches in height of riser, nor less than thirty (30) inches in width of platform.

Sec. 36. Auditorium Aisles—

(**a**) WIDTH OF.—All Aisles on the respective floors in the auditorium, having seats on both sides of the same, shall not be less than three (3) feet wide where they begin and shall be increased in width towards the exits in the ratio of one and one-half (1 1-2) inches to every five (5) running feet. Aisles having seats on one (1) side only shall not be less than two (2) feet wide at their beginning and increased in width the same as aisles having seats on both sides. There shall be aisles not less than three (3) feet wide next to the wall of all such auditoriums. Where the aisles are of uniform width throughout their width shall be the average width proportioned as above but no such aisle shall be less than three (3) feet six (6) inches wide.

(**b**) STEPS IN.—Steps shall not be permitted in aisles except as extending from bank to bank of seats, and wherever the rise from bank to bank is two (2) in ten (10) or less, the floor of the aisles shall be made as an inclined plane, and where steps are placed in outside aisles or corridors, they shall not be isolated, but shall be grouped together, and a light shall be placed and maintained so as to clearly light every place where there are steps in enclosing aisles or corridors.

Sec. 37. Aisles and Passage Ways Not to Be Blocked—

All aisles and passage ways in assembly halls and theatres shall be kept free from camp stools, chairs, sofas, and other obstructions, and no person shall be allowed to stand in or occupy any of the aisles or passage ways, during any performance, service, exhibition, lecture, concert, ball or any public assemblage.

Sec. 38. Capacity of the Foyers—

The aggregate capacity of the foyers, lobbies, corridors, passages and rooms for the uses of the audience, not including aisle space between seats, shall, on each floor or gallery, be sufficient to contain the entire number to be accommodated on said floor or gallery, in the ratio of one hundred and fifty (150) superficial feet of floor room for every one hundred (100) persons or part thereof, but no public main hall, corridor or lobby shall be less than six (6) feet wide in any of its parts. No foyer shall open to the auditorium except through the exits.

Sec. 39. Exits—

Every theatre accommodating three hundred (300) or more persons, shall have at least two (2) exits; when accommodating five hundred (500) or more persons, at least three (3) exits or additional exit width, shall be provided. See Sec. 40. These exits not referring to or including the exits to the open court at the side of the theatre. See Sec. 10.

All exits, inclusive of the emergency exits, in assembly halls and theatres, shall be located directly and without turn in the rear of the rear bank of seats and opposite each aisle provided in each floor, balcony or gallery.

Sec. 40. Exit Doors—

(a) SIZE OF.—Doorways of exit or entrance for the general and regular use of the public shall not be less than five (5) feet in width, and for every additional one hundred (100) persons, or portion thereof, to be accommodated, in excess of five hundred (500), an additional twenty (20) inches of exit door width and a two (2) foot increase of width for corridors, lobbies or passageways shall be allowed. No single door shall be less than three (3) feet wide, but two (2) such doors may be used in lieu of each five (5) foot doorway prescribed in this Title, but no single door or leaf of a double door shall exceed four (4) feet in width.

(b) STAGE DOORS.—There shall be no less than two (2) exit doors, each not less than three (3) feet in width, for the stage, located on opposite sides of the stage and opening directly upon a street, alley, court, courtway leading to a public thoroughfare. All doorways or openings in the rear or sides of the stage shall be vestibuled or otherwise protected in a manner so as to protect the curtain, scenery and auditorium against draughts of air.

(c) FALSE DOORS.—No mirrors shall be so arranged as to give the appearance of a doorway, exit, hallway or corridor, when no such doorway, exit, hallway or corridor is really in existence at said mirrors, nor shall there be any false doors or windows giving the appearance of an opening where none really exists.

Sec. 41. Main Floor and First Gallery Exits—

A common place of exit and entrance may serve for the main floor of the auditorium and the first gallery, provided its capacity be equal to the aggregate capacity of the outlets from the main floor and the said gallery; provided, that the lowermost run of any stairway leading from a gallery does not open directly at right angles with the central axis of a common exit unless there is a clear space or landing of at least one and one-quarter (1 1-4) times the width of the stairs, between the foot of such stairs and such center line or nearest exit doorway.

Sec. 42. Width of Passage Leading to Stairways—

(**a**) No passage leading to any stairway communicating with any entrance or exit shall be less than four (4) feet in width in any part thereof.

(**b**) All corridors, passageways, hallways and stairways, leading from any balcony or gallery to any toilet room, retiring room, smoking room, check room, or private office, shall permit of free passage, without returning, to an outer exit of the building. Said corridors, passageways, hallways and stairways shall be at least three (3) feet in width in every part between said balcony or gallery and said outer exit, and shall be unobstructed in every part except by doors, not less than three (3) feet in width, in the clear, which shall swing outward and which shall be provided with no locks or catches of any kind whatever.

Sec. 43. Main Stairways—

The stairways in all assembly halls and theatres having a seating capacity of more than five hundred (500) shall be built entirely of incombustible material (See Sec. 19). The entrance and first gallery or main stairways shall be in width equivalent to ten (10) inches for every fifty (50) persons, or fractional part of fifty (50) of the seating capacity of such buildings, but no such stairway shall be less that five (5) feet in width in the clear, and there shall be at least two (2) such stairways leading to the first gallery. All stairs, unless otherwise prescribed in this Title, shall be constructed and proportioned as prescribed for stairs in Title XXI. No circular or winding stair or fire escape for the use of the public shall be permitted.

Sec. 44. Gallery Stairs—

Distinct and separate places of exit and entrance shall be provided for each gallery above the first, and where the seating capacity is more than one thousand (1,000) people, there shall be at least two (2) independent stairways, with direct exterior outlets provided for each gallery in the auditorium, where there are not more than two (2) galleries; and the same shall be located on opposite sides of said galleries.

Where there are more than two (2) galleries, one (1) or more additional stairways shall be provided, the outlets from which shall connect directly with the principal exit or other exterior outlets.

Where the seating capacity is for one thousand (1,000) people or less only two (2) direct lines of stairs shall be required, located on opposite sides of the galleries, and in both cases shall extend from the sidewalk level to the upper gallery, with outlets from each gallery to each of said stairways.

All gallery stairways shall start with a width of not less than four (4) feet at the uppermost gallery and increase nine (9) inches in width instead of ten (10) inches as prescribed in Sec. 43. Stairs from balconies and galleries shall not communicate with the basement or cellar.

Sec. 45. Open Stairways—

Stairs leading to any gallery shall not be left open on both sides. Any such stairs open on one side, shall be constructed as herein provided for similar stairs leading from the entrance hall to the main floor of the auditorium. See Sec. 43.

Sec. 46. Stage Stairways—

At least two (2) independent stairways, with direct exterior outlets, shall be provided for the service of the stage, and shall be located on opposite sides of the same.

There shall be iron stairways from the gridiron and from the fly gallery above the stage to a scuttle hole in the roof of the building, leading to a fire escape or to some fireproof passageway or exit.

All stairs on the stage side of the proscenium wall shall not be less than two (2) feet six (6) inches wide.

Sec. 47. Stair Landings—

No stairs in an assembly hall or theatre shall have more than an eleven (11) foot run without a level landing. The outer line of landings shall be curved to a radius of at least two (2) feet to avoid square angles.

Sec. 48. Stair Hand Rail—

All inclosed stairways shall have, on both sides, strong hand rails, firmly secured to the wall, about three (3) inches distant therefrom and about three (3) feet high above the stairs.

All stairways eight (8) feet and over in width, shall be provided with a central rail of metal or hard wood, not less than two (2) inches in diameter, placed at a height of about three (3) feet above the center of the treads, supported on wrought metal or brass standards of sufficient strength securely bolted to the treads or risers of the stairs, or both, and at the head of each flight of stairs, and on each side of the landing, the post or standard shall be at least six (6) feet in height, and the rail shall be secured to such post.

Sec. 49. Steam Boiler—

No steam boiler or furnace which may be required for heating or other purposes shall be located under the auditorium or stage nor any passage or stairway or exit of the building, and the space allotted to the same shall be inclosed by walls of masonry on both sides, and the ceiling of such space shall be constructed of fireproof materials. All doorways in said walls shall have fireproof doors.

Sec. 50. Heating—

No floor register for heating shall be permitted in aisles or passageways. No coil or radiator shall be placed in any aisle or passageway used as exit; but said coils and radiators shall be placed in recesses formed in the wall or partition to receive same.

All supply, return or exhaust pipes shall be properly incased and protected where passing through floors or near woodwork. All ducts and shafts used for conducting heated air from the main chandelier, or from any other light or lights, shall be constructed of metal, and made double with an air space between them. See Title XX.

Sec. 51. Stand Pipes—

Stand pipes four (4) inches in diameter shall be provided with hose attachments on every floor and gallery, as follows, namely: One (1) on each side of the auditorium in each tier; also on each side of the stage in each tier, and at least one (1) in the property room, and one (1) in the carpenter shop, if the same be contiguous to the building. All stand pipes shall be kept clear from obstruction. Said stand pipes shall be separate and distinct, receiving their supply of water direct from the street main, one (1) for the auditorium and one (1) for the stage, and shall be fitted with regulation couplings of the fire department, and be ready for immediate use at all times during a performance in said building. When the pressure of the street water service is not sufficient to provide an efficient working pressure at the hose nozzle or sprinkler outlets, then the stand pipes shall be kept filled with water by means of an automatic pump or pumps of sufficient capacity to supply all the fire lines connected therewith. See Part IV of this Code.

Sec. 52. Sprinklers—

(**a**) WATER CURTAIN.—There shall be placed over the curtain opening the full width a two and one-half (2 1-2) inch perforated pipe, supplied at each end by a two (2) inch rising main, inter-connected at the bottom to a three (3) inch fire line leading directly to the street, with valves controlled from stage as near the exits as possible, to form when in service a water curtain or automatic sprinkler.

(**b**) AUTOMATIC SPRINKLERS.—In lieu of the water curtain prescribed in (a), automatic sprinklers shall be placed in the ceiling or below the roof of the stage at such intervals as will protect every square foot of stage surface when said sprinklers are in operation. In all non-fireproof theatres, or in fireproof theatres when the rules of the Fire Department direct, automatic sprinklers shall also be placed under the stage when practicable, and in the dressing rooms, carpenter shop, and paint, store and property rooms.

The aforesaid automatic sprinkler system with or without fusible plugs shall be independent of and in no manner connected with the stand pipes prescribed in Sec. 51, but shall be supplied with water from a tank on the roof over the stage. In lieu of such tanks, pumps may be provided as prescribed in Sec. 51. See also Part IV of this Code.

Sec. 53. Fire Hose—

A proper and sufficient quantity of two and one-half (2 1-2) inch hose, fitted with the regulation couplings of the fire department, and with nozzles attached thereto, and with hose spanners at each outlet, shall always be kept attached to each hose attachment.

Sec. 54. Portable Extinguishers—

There shall also be provided hand pumps, or other portable fire extinguishing apparatus, and at least four (4) axes, and two (2) twenty-five (25) foot hooks, two (2) fifteen (15) foot hooks, and two (2) ten (10) foot hooks, on each tier or floor of the stage.

Sec. 55. Casks of Water—

There shall be kept ready for immediate use on the stage at least four (4) casks full of water, and two (2) buckets to each cask. Such casks and buckets shall be painted red.

Sec. 56. Lighting—

Every portion of the building devoted to the uses or accommodations of the public, also all outlets leading to the streets, including the open court and corridors, shall be well and properly lighted during every performance, and the same shall be lighted until the entire audience has left the premises. All gas or electric lights in the halls, lobby or other parts of said buildings used by the audience, except the auditorium, must be controlled by a separate cut-off, located in the lobby, and controlled only in that particular place.

Sec. 57. Gas Mains—

The gas mains supplying the building shall have independent connections for the auditorium and the stage, and provisions shall be made for shutting off the gas from the outside of the building.

Sec. 58. Method of Lighting Gas—

When interior gas lights are not lighted by electricity, other suitable appliances, approved by the Chief of the Fire Department shall be provided.

Sec. 59. Protecting Lights—

All suspended or bracket lights surrounded by glass, in the auditorium or any part of the building devoted to the use of the public, shall be provided with proper wire netting underneath.

No gas or electric light shall be inserted in the walls, woodwork, ceilings, or any part of the building unless protected by fireproof materials. All lights in passages and corridors in said building, and whenever deemed necessary by the Inspector or Chief of Fire Department, shall be protected by proper wire net works.

Sec. 60. Foot Lights and Stage Lights—

All foot lights, except electric lights, in addition to the wire net work, shall be protected by a strong wire guard and chain, placed not less than two (2) feet distant from said foot lights and the trough within which said lights are placed, shall be formed of and surrounded by fireproof materials. All border lights shall be constructed according to the best known methods and subjected to the approval of the Inspector and Chief of Fire Department, and shall be suspended for ten (10) feet by wire rope. All ducts or shafts used for conducting heated air from the main chandelier, or from any other light or lights, shall be constructed of metal and made double, with an air space between.

All stage lights, except electric lights, shall have strong metal wire guards or screens, not less than ten (10) inches in diameter, so constructed that any material in contact therewith shall be out of reach of the flames of said stage lights, and the said guards shall be soldered to the fixture in all cases.

Sec. 61. Electric Light—

Assembly halls and theatres lighted by electric light only shall have at least three (3) separate and distinct circuits: (a) for the stage, (b) and (c) for the auditorium, corridors and exits. The circuits referred to in (b) and (c) shall be so arranged that half of the lights in each division of the auditorium and half of those in each corridor and exit shall be on (b) and the other half on (c) circuit. When the current is supplied by a public lighting company these circuits shall be taken separately from the street mains.

Under all circumstances complete metallic circuits must be employed. Gas and water pipes shall never form a part of any circuit. The number of lamps shall be so subdivided that no subcircuit shall carry any more than sixty (60) amperes, and each sub-circuit shall start from a distributing board.

Sec. 62. Programmes—

It shall be the duty of the owner, lessee or manager of every theatre or assembly hall, during the performance of which programmes are issued, to cause a diagram or plan of each tier, gallery or floor, showing the exits of such building, each occupying a space not less than sixteen (16) square inches, to be printed in black lines on such programmes, together with the capacity of such theatre or hall, as governed by the size of exits and passageways, and no greater number shall be allowed to enter.

Sec. 63. Exit Signs and Red Lights—

Each and every exit of an assembly hall, theatre or other public place of amusement which can be used in case of fire, shall be designated by the word "Exit" in letters of such size that they can be read from the opposite side of the auditorium or gallery, and so situated immediately over or on the exits that they can be readily seen from any or all parts of said auditorium or gallery. A red light shall be placed over each of said signs and kept burning during the time of the entertainment or performance, and no other fixed red lights will be permitted in the auditorium, and the fact that such red lights indicate an exit to be used in case of fire shall be conspicuously printed on the programme used in the theatre or other public place of amusement at each entertainment.

Sec. 64. Controlled by the Fire Department—

The stand pipes, gas pipes, electric wires, hose, footlights and all apparatus for the extinguishing of fire or guarding against the same, as in this Code specified, shall be in charge of and under the control of the fire department; and the chief of said department, in connection with the Inspector of Buildings, is hereby directed to see that the arrangements in respect thereto are carried out and enforced.

Sec. 65. Exits to Open Outwardly—

In all assembly halls and theatres, now or hereafter erected, all exit doors shall open outwardly, but so as not to block or in any manner interfere with the use of any balcony, platform, stair landing, passageway, fire escape, or other exit. And all such exit doors shall, during a performance, be kept unlocked or open.

Sec. 66. Minor Theatres—

Minor Theatres, as prescribed in Sec. 5, Title XXXVI, shall be regulated as follows:

(a) STAGE AREAS.—The area of the stage back of the proscenium wall shall never exceed twenty (20) per cent. of the main floor of the auditorium, and there shall be no trap door or movable floor in same.

(b) PROSCENIUM WALLS.—When the seating capacity is greater than five hundred (500) persons, allowing a space of twenty (20) by thirty (30) inches for each person, said wall shall be of brick proportioned in thickness according to its height as prescribed in Titles VIII and IX, and shall extend upward at least four (4) feet above the roof. When the seating capacity is less than five hundred (500) persons, fireproof or solid incombustible partitions not less than four (4) inches thick may be used.

(c) DEPTH OF STAGE.—The depth of the stage shall not exceed twenty (20) per cent. of the longest dimension of the main floor, nor shall such stage contain more than three (3) entrances between the proscenium wall and the back wall curtain.

(d) CURTAIN.—When the seating capacity is greater than seven hundred and fifty (750) persons, as prescribed in (b), the curtain shall be of asbestos and be hung, constructed and operated as prescribed in Sec. 22.

(e) SCENERY.—All scenery, borders and wings shall be permanent and no transient scenery shall be permitted. The wings or set pieces shall be flippered or pivoted wings not exceeding twelve (12) feet in height or seven (7) feet in width, and all such scenery, borders, wings and curtains shall be painted as prescribed in Sec. 27.

(f) VENTILATORS.—The area of the stage ventilators prescribed in Sec. 23, may be reduced to one-twentieth (1-20) of the area of the stage, or in lieu thereof a flue pipe or flue pipes of metal construction or of other non-combustible material, extending not less than fifteen (15) feet above the highest part of the roof over the stage of said building, shall be over the stage, and said flue or flues shall have an area of at least one-twentieth (1-20) of the total area of the stage. All such flues or vents shall be provided with dampers which shall be made of metal having two (2) per cent of its area perforated, and shall be opened and controlled as prescribed for skylight ventilators in the aforesaid section.

(g) STAND PIPE.—All minor theaters having a seating capacity greater than two hundred and fifty (250) but less than seven hundred and fifty (750) persons shall have at least one line of stand pipe on the stage and one in the auditorium, but all such theatres which have a seating capacity greater than seven hundred and fifty (750) persons shall have two lines of stand pipes as prescribed in Sec. 51, except that the diameter of such stand pipes may be reduced to three (3) inches.

(h) FIRE HOSE.—The stand pipes shall be equipped with standard valves, outlets and reducers fitted with one an one-half (1 1-2) inch hose as prescribed in Title IV, Part IV of this Code.

Sec. 67. Summer Theatres—

Summer theatres, if built in the "Urban" district, located thirty (30) feet distant from any other building or strucure, or adjoining lot lines, and at least two hundred (200) feet outside the fire limits, of no greater seating capacity than seven hundred and fifty (750) persons, and not more than one (1) story high, without balconies, or galleries, may be constructed as follows:

The auditorium, without a cellar or basement, with open sides or double the number of exits as hereinbefore provided, opening directly into the surrounding courts or gardens at the grade level, and the adjoining dressing rooms may be of VII class construction, but the stage shall be enclosed in brick walls not less than one and one-half (1 1-2) brick thick, on all sides and be built of V or VI class, or better, construction, provided that the openings leading to the dressing rooms shall be provided with fire doors.

Otherwise, all protective features and arrangements shall comply with all previous sections of this Title, except that in all summer theatres without balconies or galleries, the curtain need not be made of asbestos, but all scenery and the curtain shall be painted as prescribed in Sec. 27.

Sec. 68. Ventilation of Theatres—

Every assembly hall and theatre shall be properly and efficiently ventilated as prescribed in Sec. 17, Title XXXI.

TITLE XXXVIII.

MISCELLANEOUS.

Sec. 1. Inflammables—

Buildings hereafter erected, designed or used for the storage or sale of petroleum, benzine, camphene, spirit gas, burning fluid, or spirits of turpentine, exceeding in quantity five (5) barrels of fifty (50) gallons each, or in which compounding or refining of petroleum or inflammables of like nature is done, shall be located at least one hundred (100) feet from any other building and shall be constructed as follows:

The walls shall not be less than two (2) brick thick nor more than sixteen (16) feet high; the floors shall be made of fireproof paving or concrete upon the ground, which shall be at least five (5) feet below the street grade; the roof shall be of metal or other fireproof material and have fire walls extending eighteen (18) inches high, all around, no less than one and one-half (1 1-2) brick thick, and have copings of incombustible material. All doors and windows shall be provided with fireproof shutters; metal covered scuttles or automatic ventilating skylights may be used in lieu of windows .

Sec. 2. Dry Cleaning Works—

(**a**) STORAGE.—All dry cleaning works hereafter erected and all buildings hereafter converted to such use in which gasoline, benzine, or other inflammable fluids are used for cleaning purposes, shall have metal storage tanks placed in underground watertight brick pits; said pits shall be at least four (4) feet larger in diameter and extend at least three (3) feet above the top of the tanks (see also Secs. 4 to 9 inclusive) and, except as modified in (b), shall be located the folowing distances from any building or lot line:

If the capacity of the tank or tanks is two hundred and fifty (250) gallons or less, twenty-five (25) feet; if greater than two hundred and fifty (250) and not more than one thousand (1,000) gallons, fifty (50) feet; if greater than one thousand (1,000) and not more than fifteen hundred (1,500) gallons, seventy-five (75) feet; if greater than fifteen hundred (1,500) gallons, one hundred (100) feet. If the capacity of each individual storage tank does not exceed two hundred and fifty (250) gallons, and their enclosing pits are at least six (6) feet distant from each other, the above distances may be reduced by one-third (1-3), provided, that no such tank shall be located at a less distance than twenty-five (25) feet from any other building.

(**b**) THE WASHING AND DRYING ROOMS.—The washing, assorting, preparation, still, and drying rooms may be contained in one building provided the same is not over one (1) story in height and is constructed as hereinafter prescribed. Such buildings shall be located the same distance from any other building as prescribed for tanks in (a), and shall never be nearer than one-half (1-2) the given distances to the storage tanks, provided that dry cleaning establishments consisting of one or more buildings in each of which buildings not more than two hundred and fifty (250) gallons of gasoline, benzine or other inflammable fluids are used, may be located within twelve (12) feet of each other and not less than twelve (12) feet from a building containing the common assorting, preparation and drying rooms.

(c) CONSTRUCTION OF WASHING AND DRYING ROOMS.—All buildings containing washing, still, and drying rooms in which inflammable fluids are used shall be constructed as prescribed in Sec. 1, except that the exterior and all bearing walls shall not be less than one and one-half (1 1-2) brick thick and inner partition or non-bearing division walls one (1) brick thick, and the story height not less than eleven (11) feet in the clear. The floor level shall be at least six (6) inches below the outer grade. The interior of the building shall be divided into compartments separated by brick walls. The assorting, preparation and drying rooms shall be vestibuled from each other and from the still, machine and hand washing rooms and other rooms where inflammable fluids are used in the process of cleaning.

(d) WASHING ROOM.—Rooms containing washing machines or stills or cans or tubs for hand washing shall be divided into compartments by brick walls which shall be carried above the roof, be properly coped as prescribed in Sec. 1, and each of said compartments shall be proportioned for the use of not more than one hundred (100) gallons of inflammable fluid at any one time in any machine or machines, stills, cans or tubs placed therein. The interior of each such compartment shall be provided on at least three (3) sides with a trench constructed next to the walls, and not more than eighteen (18) inches therefrom, which trench shall be at least one (1) foot deep and of sufficient width to contain at least twice the number of gallons of fluid used therein but no such trench shall drain into any other compartment..

No compartments containing washing machines or stills shall open into each other, but each shall be provided with a door opening to the outer air or a common vestibule, or such door may open into the hand-washing room, provided that such room is vestibuled from all other compartments in such building as prescribed in sub-section (c).

(e) LIGHTING.—No artificial light, except incandescent electric, shall be used in such compartments. Automatic, ventilated metal skylights, as prescribed in Sec. 23, Title XXXVII, shall be used to light every room or compartment in such building, but the preparation or hand washing rooms, or any rooms where persons are employed, shall have additional windows provided with fire shutters, but any windows placed in the still, machine washing and drying rooms shall be of wired glass in fixed metal sash and frames. All doors throughout said building shall be standard self-closing automatic fire doors. See part IV of this Code.

(f) VENTILATION.—Each room or compartment shall be provided with a separate and efficient system of ventilation either by natural or artificial means so designed that in the event of fire each room or compartment or vestibule will be completely shut off from any other room or compartment except through fire doors.

For other drying rooms and for boilers, see Title XX.

Sec. 3. Gasoline and Kerosene Oil Engines for Power—

Gasoline and kerosene oil engines for power shall rest on solid brick and stone foundations built on the ground. No such engine shall be located above the ground floor of any building.

Sec. 4. Gasoline or Kerosene Oil Storage Tanks—

All tanks for the storage of gasoline or kerosene oil for power engines or automobile feeds in garages or factories, shall not contain more than two hundred and fifty (250) gallons and be located underground at a safe distance from any building (not nearer than six (6) feet, if such building is of brick, and sixteen (16) feet if of frame construction); the top of such tank shall be below the level of the base of the engine or pump and not less than three (3) feet under ground, and be solidly enclosed with earth; the location of such tanks inclosed in vaults shall be subject to such of the regulations herein relating to vaults as are not inconsistent herewith; provided that such vaults shall be unattached, well ventilated through separate flues or pipes, and have iron man-holes and covers for clearance of tanks. See Sec. 2 (a).

When tanks of a larger storage capacity than two hundred and fifty (250) gallons are used, their location in reference to each other and any building or lot line shall be regulated as prescribed in sub-sections (a) and (b) of Sec. 2.

No such storage tank shall be located under any public sidewalk, street, alley, courtway or lawn.

Sec. 5. Gasoline and Oil Supply Pipes—

All pipes leading from said storage tanks shall be coupled together at every joint with air-tight couplings, metal to metal. Supply pipes shall incline toward storage tanks. The filling of storage tanks with gasoline and kerosene oil shall be done by daylight only by competent persons and no artificial light shall be used about the place of filling, and all pipe attachments between wagons for hauling gasoline and kerosene oil, or tanks therefor, shall be fitted with tight screw connections; vent pipes with screw caps must be attached to such tanks; vent pipes shall be open during the process of filling.

Sec. 6. Valves—

Valves in supply pipes to engines between the engine and tank and near such tank, shall be provided; valves in supply pipes shall be closed when filling the tank and when engine is shut down for the night.

Sec. 7. Pumps—

Gasoline and kerosene oil shall be supplied to engines and automobile tanks by approved pumps provided with cut-off valves, overflow and by-pass so arranged that all gasoline and kerosene oil shall drain back to the storage tank so as to leave the building entirely free from gasoline or kerosene oil when the engine is not in operation. All cut-off valves for this purpose shall be outside of the building.

Sec. 8. Permits and Inspection—

No change shall be made in the arrangement or construction of engines operated by gasoline or kerosene oil without notice to and approval by the Inspector. Notice of intention to introduce gasoline or kerosene oil engines into buildings shall be given to the Inspector who will make, or cause to be made, an inspection of the proposed location, and if satisfactory and in accordance with the foregoing, will issue a permit therefor. The dimensions of storage tanks for gasoline and kerosene oil or rooms in which such articles are worked or stored, shall be determined by the Inspector in accordance with the provisions of this Code when not otherwise provided for in the ordinances of the City relating to explosives.

Sec. 9. Engine and Feed Enclosures—

All rooms enclosing automobile feeds in garages and work shops and engines operated by gasoline or kerosene oil, or any other inflammable fluid, shall be constructed of brick, stone, iron or other incombustible material, and the ceilings, doors and shutters thereof shall be covered with metal. The floors of all such rooms, and all rooms in which automobiles containing live tanks of inflammable fluids, are housed or sheltered, shall be provided with water tight concrete floors, scuppered to a depth of at least six (6) inches.

Sec. 10. Automobile Garages and Shelters—

(**a**) PRIVATE GARAGES AND SHELTERS.—For the purposes of this Code all automobile garages or shelters devoted exclusively to the private uses of any owner or his family shall be deemed stables or barns, and if not in conflict with any other city ordinance or the further provisions of this Title, shall be regulated as prescribed in Title XXXIII, provided that not more than two (2) automobiles containing live tanks of gasoline or other inflammable fluid shall be housed or sheltered in any barn of the VII class; nor more than six (6) in any barn of the VI class or open shelter shed of the VII class; and all barns sheltering more than six (6) but not more than ten (10) such automobiles, shall be of at least V class construction.

If such barn is more than one (1) story high, the portion used for the shelter of such automobile shall not be less than eleven (11) feet high in the clear, well ventilated, and shall be separated from all other portions or rooms by brick walls not less than one (1) brick thick, with all openings therein provided with fire doors or shutters.

(**b**) PUBLIC GARAGES.—All garages or barns accommodating more than ten (10) automobiles with live tanks of gasoline or other inflammable fluid, used either for private or public livery or temporary shelter purposes, shall be deemed public garages, subject to the following regulations:

(c) CONSTRUCTION.—No building hereafter erected shall be used as a public garage nor shall any existing building be converted to such use unless the same is of at least V class construction if the number of automobiles sheltered does not exceed one hundred (100), and of at least IV class construction if such number exceeds one hundred (100). The portion of such building sheltering the automobiles or containing the feed room shall not be less than fourteen (14) feet high in the clear, and, when located in the "Inner" fire district, the floor and ceilings of the story so sheltering over one hundred (100) such automobiles, shall be of I, II or III class fireproof construction.

(d) FIRE WALLS IN.—If a public garage is more than one (1) story high the portion housing or sheltering such automobiles shall be well ventilated and be separated from all feed, work, repair or storage rooms and all stair and elevator enclosures by brick fire walls not less than one and one-half (1 1-2) brick thick; fire doors and shutters shall be provided for all inside and outside wall openings in such buildings as prescribed in Title III, Part IV of this Code.

(e) LOCATION OF.—The location of all public garages shall be regulated as prescribed in Sec. 11. No room sheltering any gasoline automobile as herein prescribed, in any private or public garage, shall be located above or below the floor nearest the grade, provided that such floor is not more than five (5) feet below such grade and has no cellar underneath. When there is a cellar underneath such floor it shall extend not less than three (3) feet above the grade; such floor shall be constructed watertight and fireproof throughout.

Sec. 11. Grist and Saw Mills and Blacksmith Shops—

No building to be used as a saw or grist mill, blacksmith or whitesmith shop, or shop for the working of wood or other combustible materials, or rag warehouse, or shop or building for the storage of materials of an inflammable nature shall be erected, nor shall any building be converted to such uses, within thirty (30) feet of any building of the First grade, or "hotel," "tenement," or "dwelling," or "office," except the dwelling owned by the owner of the building to be erected for or converted to the uses aforesaid.

No building shall be erected for or converted to the uses aforesaid within sixteen (16) feet of any lot line or any other grade of building not provided for above, except that when such buildings are located in a block between street lines, where all buildings located thereon contain stores, warehouses, workshops or factories devoted to the same or similar uses as herein prescribed, then such buildings, if provided with dead brick walls along their inner lot lines, may be spaced near each other, and if such stores, warehouses, workshops or factories are built up to such lot lines and separated only by dead division or party walls, there shall be an open alley not less than sixteen (16) feet wide in the rear thereof if such width is not in conflict with any other provisions of this Code.

Sec. 12. Buildings Adjoining Viaducts—

All buildings hereafter to be erected within twenty(20) feet of any viaduct shall be of the VI class or a better class of construction. All buildings now built or hereafter to be built with their fronts or adjacent side walls within the twenty (20) feet as aforesaid in which there are doors, windows or other openings, shall have all such openings within the twenty (20) foot limit provided with fire shutters as prescribed in Part IV of this Code.

Sec. 13. Lumber Yards—

It shall be unlawful to pile lumber in any yard to a greater height than thirty (30) feet above the grade of the adjoining street or alley, and when piles of lumber are situated adjacent to each other the space between the piles shall be kept entirely free of refuse, chips or blocks, and equipped with standard fire hydrants, spaced at regulation distances, when deemed necessary by the Chief of the Fire Department. When lumber yards front on streets, a proper and suitable fence shall be erected and maintained along the street line, such fences to be provided with gates or other suitable openings at intervals of at least one hundred (100) feet to allow of easy access to lumber yard by the Fire Department should the necessity occur.

Sec. 14. Lumber Piles—

No lumber shall be piled, for the purposes of storage, seasoning or drying, within thirty (30) feet of any building, nor within (50) feet of a planing mill or wood-working factory, unless such building is provided with a solid brick fire-wall on the side adjacent to the lumber pile, and when such is the case no lumber pile shall be higher than ten (10) feet below the coping of said fire-wall, but not exceeding thirty (30) feet in height; nor within one hundred (100) feet of any building of the First grade, or any "hotel," "dwelling" or "tenement" unless the same has been erected since the establishment of such yard, but nothing in this section shall prevent the erection of a two (2) story frame office building, not exceeding twenty-five (25) feet in height, in any lumber yard, providing the chimney of such office building is at least thirty (30) feet distant from any lumber pile.

TITLE XXXIX.

GAS FITTING.

Sec. 1. Gas Mains and Meters—

All gas mains entering any building shall be thoroughly cemented into the wall and shall have a shut-off near the curb line. Gas meters shall not be placed underneath any stairway or in any clothes or storage closet or in the dead space between the floors under show windows, and when located in any cellar or basement such location shall not be in any fuel or furnace room, but they shall be placed close to the front wall, at least four (4) feet above the floor and as near a window as possible with an unobstructed passageway leading thereto.

Sec. 2. Meters of Different Gases—

When different kinds of gases, either natural or artificial, or both, or electric wires, are used in the same building, the meters and shut-offs thereto within the building shall be placed as far as possible from each other, and if nearer than five (5) feet, there shall be a brick wall or a fireproof partition between them. Each gas system shall be separately and independently piped to their respective outlets, and when it is desired to change from one system to another, the change shall be made at the meter; interconnecting pipe or by-passes shall not be used provided that where two (2) gas systems have independent service pipes run from the meters to any furnace, heater, range or other outlet the inter-connection may be made near the outlet with a positive three (3) way gas stop-cock.

Sec. 3. Plans of Gas Meters and Shut-Offs—

All meters, mains and shut-offs within a building shall be located in an accessible, unobstructed, natural lighted place in the basement, if possible, and when the location of same in the basement is impracticable, they shall be grouped on their respective floors for all floors above the first, and the plans of such locations in buildings of the First, Second and Third grades, shall be placed on file in the Department of Buildings for the use of the Fire Department. All plans shall show all outlets with the number of burners attached.

Sec. 4. Burners and Fires—

The term "burner" shall apply to any single gas outlet consuming not less than six (6) or more than ten (10) cubic feet per hour, and the term "fire" to any single outlet consuming from fifty (50) to and not exceeding seventy-five (75) cubic feet per hour.

Sec. 5. Sizes of Pipe—

The size of pipe used for illuminating purposes shall not be less, nor the length greater, to the number of burners stated than those specified in the following table, except that if the number of burners is not more than half the stated maximum, the length of run may be increased one-half:

Size of Pipe	Greatest Length Allowed.	Greatest No. of Burners.
⅜ inch	10 feet	2
½ inch	30 feet	6
¾ inch	60 feet	20
1 inch	80 feet	35
1¼ inches	120 feet	60
1½ inches	160 feet	100
2 inches	200 feet	200

2½ inches	300 feet	300
3 inches	450 feet	450
4 inches	600 feet	750

But no riser from a meter shall be less than a three-quarter (3-4) inch pipe.

In applying the above table, the number of burners to outlets in various locations shall be estimated as follows:

Parlor ceiling outlet	4 burners
Dining room ceiling outlet	4 burners
Bedroom ceiling outlet	3 burners
Kitchen ceiling outlet	1 burner
Bracket and newel post outlets	1 burner
Hall, pantry, washroom and bath room ceiling outlets	1 burner

An outlet for a gas range or water heater or a gas log or grate shall be counted as equivalent to and not less than six (6) burners and all gas ranges and heaters shall have a straightway valve on the service pipe.

Smaller pipe than half-inch (1-2) shall not be used for kitchen outlets in ceilings.

Sec. 6. Quality of Pipe—

The pipe shall be of the best quality of wrought iron or steel pipe, with galvanized malleable iron fittings, and joints shall be made with white lead, preferably applied to the male threads.

No second-hand pipe shall be used, except that when a building is undergoing reconstruction or repair such gas pipe as is taken out and found in good condition may be re-run.

Sec. 7. Supports and Grades—

All pipes shall be suitably supported and stayed with pipe hooks, straps and screws.

All pipes shall be properly graded, and, if practicable, toward the meter. A bracket outlet shall preferably be run as a riser than as a drop. No gas pipe shall be laid in cement, unless the pipe and channel in which it is placed are covered with tar, nor within six (6) inches of an electric wire.

Sec. 8. Cutting and Fitting—

In the installation of the gas piping the cutting and fitting around the structural parts of the building shall be done in conformity with Sec. 25, Title IX, Secs. 5 and 12, Title XIII, and Sec. 13, Title XV.

Sec. 9. Risers—

The rising line of pipes in all buildings shall be carried up on an inside partition out of the reach of frost and shall be placed where the stop-cock can be readily got at. In buildings of large undivided floor spaces the risers shall be run exposed at least six (6) feet distant from any window.

Sec. 10. Drops or Outlets—

Drops or outlets less than three-quarters (3-4) of an inch in diameter shall not be left more than three-quarters (3-4) of an inch below plastering, centre-piece, or woodwork, and other outlets shall not project more than three-quarters (3-4) of an inch beyond plastering or woodwork.

Sec. 11. Stop-Pins—

All stop-pins to keys or cocks or fixtures shall be screwed into place.

Sec. 12. Capping and Inspection—

After the piping is run all openings shall be closed with iron caps and in no case shall lead caps be allowed, and all unused outlets shall be kept capped. All split pipe or defective fittings shall be removed and no pipe or defective fitting repaired with cement or lead will be allowed. No gasfitters' cement shall be used except at a fixture joint. All pipes shall be examined and tested before said pipes are concealed, and due notice shall be given by the fitter to the Inspector when any pipe is ready for inspection.

Sec. 13. Tests—

The gas piping in any building shall be tested air-tight by the gas fitters under the direction of the Inspector, viz.: First, when roughing in is completed and before the floors are laid; and, second, when the entire building is completed and the work ready for gas fixtures. Said tests shall be made by having all openings closed and subjecting the piping to an air pressure test that will support a column of mercury twenty (20) inches in height at least fifteen (15) minutes, provided that in no case shall a spring or steam gauge be used.

There shall be a final test of all fixtures and pipes by two (2) inches of mercury, which must stand five (5) minutes; this test to be made in the presence of the Inspector.

On proof of a satisfactory test the Inspector shall issue a certificate of inspection to the fitter, covering said work.

Sec. 14. Gas Brackets—

All gas brackets shall be placed at least three (3) feet below any ceiling or woodwork unless the same is properly protected by a shield, in which case the distance shall not be less than eighteen (18) inches. No swinging or folding gas bracket shall be placed against any stud partition or woodwork. No gas bracket on any lath and plaster partition or woodwork shall be less than five (5) inches in length, measured from the burner to the plaster surface or woodwork, and shall be at least two (2) inches from any door or window casing. No outlet shall be placed behind any door or within four (4) feet of any meter.

Sec. 15. Hose Outlets—

No independent connection for a hose outlet shall be placed above the stiff joint on any chandelier or pendant, but such connection shall be brought down to an accessible point.

Sec. 16. Extensions or Alterations—

Where any material extensions or alterations are to be made the work shall be done in conformity to the provisions of this Title.

No extension or alteration of any existing system of gas piping in a building in excess of fifteen (15) feet in length and unless the same is entirely exposed shall be made without reporting the same to the Inspector for inspection. Extensions shall conform in size to the table of Sec. 5, and shall be made from the largest practicable outlet.

The provisions of this section shall also apply where the use of one system is changed to another as prescribed in Sec. 2. In such cases the whole system shall be retested and certified to before a permit for such change shall be granted.

Sec. 17. Natural or Fuel Gas—

In piping any building for natural gas for fuel purposes, no one (1) inch main shall supply more than five (5) fires, and when there are more than five (5) fires, one and one-quarter (1 1-4) inch pipe shall be used; one-half (1-2) inch branches from mains shall not supply more than one (1) fire and three-quarter (3-4) inch branches not more than two (2) fires, but nothing in this section shall prohibit the use of a three-eighths (3-8) inch riser for supplying one (1) fire, if not over ten (10) feet in length.

Sec. 18. Condemnation and Removal—

The Inspector shall promptly condemn and order the removal, reconstruction or repair of any system of gas piping or portion thereof, which does not conform to these regulations. He shall order the necessary repairs to be made when defects are found in any old system of gas piping or fixtures connected therewith, and such repairs shall be promptly made by the responsible party upon service of order or notice.

PART III

OCCUPANCY OF PUBLIC PROPERTY

TITLE I.

INTRODUCTORY.

Sec. 1. Explanatory—

All subjects under this part, known as Part III. of the Building Code, relate to the occupancy of public property by building materials, or by buildings or structures.

Sec. 2. Tenancy—

All occupancy of public property, as hereinafter set forth in Titles II. and III., shall be considered and treated as a tenancy at the will of the City of Cleveland.

Sec. 3. Board of Public Service—

Wherever the subject of any occupancy is not fully set forth in any Title under this Part of the Building Code, the tenancy of such occupancy shall be subject to the approval of the Board of Public Service under the statutes and ordinances, governing its custody of public property.

Sec. 4. Building Permits—

Building permits, subject to the approval prescribed in Section 3, shall carry the right to occupy public property for the conduct of building operations, as hereinafter prescribed, and such occupancy must terminate with the completion of the operations for which a permit was issued by the Inspector of Buildings; and no owner shall place any building apparatus or materials, or any building, shed or other structure or any part thereof upon any public street, alley, courtway, lawn, park or any other public property in violation of any provisions prescribed in any of the following Titles.

TITLE II.

TEMPORARY OCCUPANCY.

Sec. 1. Fencing in Building Sites—

During the erection of the external walls of any building within five (5) feet of any street line, the owner, or his agent in charge thereof, shall cause the part of such building fronting on such street to be enclosed by a fence located not less than seven (7) feet from the building line and not more than eight (8) feet nor less than five (5) feet high. See Title XXV, Part II, of this Code. Nor shall any portion of such fence be used for advertising purposes in conflict with Sec. 27 of Title III.

Sec. 2. Sidewalk Around Fence—

If any enclosing fence shall prevent passage on the sidewalk, the owner, through his agent in charge thereof, shall cause to be laid and maintained in good repair and free of rubbish, dirt and snow, a temporary plank sidewalk around the same, not less than one-third (1-3) the width of the sidewalk, but never less than three (3) feet wide.

Sec. 3. Limits of Sidewalks—

Whenever there is no vault to be built under the sidewalk, the fence and walk mentioned in the previous section shall be kept within the curb lines except as modified in Section 8. When a sidewalk vault is permitted the fence may be placed on the curb line with temporary walk on the outside and there maintained until the basement and sidewalk area walls are brought to the level of the grade of the first floor.

Sec. 4. Fences and Walks Moved Back—

No wall of any building having a sidewalk vault attached thereto shall be carried above the first story level until the vault retaining walls are brought to the grade and covered over temporarily or permanently with fences and walks set back within the curb lines as prescribed in Section 2.

Sec. 5. Railing and Driveways—

Such temporary sidewalks shall, if there are excavations on either side of the same, be protected by substantial railing, which railing shall be built and maintained thereon so long as such excavations continue to exist. Nothing in this section shall prohibit the maintenance of a driveway over such walk for the delivery of materials, provided that such walks are not elevated as prescribed in Section 6.

Sec. 6. Elevated Sidewalks—

Temporary sidewalks shall not be elevated to a greater height than four (4) feet above the curb line of the street. And any such elevated sidewalk shall be provided with safe and substantial steps on both ends thereof, and railings on the sides thereof.

If the building is more than one (1) story high such elevated sidewalks shall be covered over as prescribed in Section 7.

Sec. 7. Covered Sidewalks—

If the building to be erected in the "Inner" district is more than three (3) stories in height, and is set at or near the street line, there shall be built over the temporary sidewalk a roof having a framework covered by two (2) layers of two (2) inch plank. Said roof shall not be less than ten (10) feet above any walk and extend to the curb, and be maintained as long as material is being used or handled on said street front above the level of such sidewalk. Temporary enclosures of shop fronts, during their construction or repair, may extend over the street line seven (7) feet for their entire height, subject to all regulations herein prescribed for temporary fences.

Sec. 8. Method of Protection to be Used—

Before a permit to build is granted the method of protection and enclosure of the building site as prescribed in the previous sections, and the placing and working of building materials upon public property elsewhere prescribed in this Title shall be determined upon, and if any change of method, in whole or in part, is necessary during the conduct of building operations, such change shall be ordered by the Inspector under the direction of the Board of Public Service as provided in Section 3, Title I.

Sec. 9. Excavated Materials—

Earth taken from excavations and rubbish taken from buildings being erected, altered or demolished, shall not be stored upon sidewalks, streets or alleys, but must be removed from day to day as rapidly as produced. Where dry rubbish, apt to produce dust, is being handled, it must be kept wetted down so as to prevent its being blown about by the wind.

Building rubbish and useless material accumulating on the upper floors shall be lowered in receptacles by elevators, or by closed chutes, directly into wagons; chutes over public property shall extend clear to the curb lines.

Sec. 10. Working of Materials—

No building material shall be worked, such as dressing stone, lumber or other material, upon any public property within the "Inner" fire district or within the "Outer" district on any street having railway tracks.

Sec. 11. Storage of Materials on Streets and Maximum Area Occupied—

The occupation of sidewalks or streets by articles not intended for immediate use, that is, from day to day, in connection with the operations for which the permit was issued, shall not be allowed, except that old brick or building materials taken from a building may be stacked in front of the site of said building for a time to be limited by the Inspector of Buildings in the permit, provided the new building wherein these materials will be used is to be immediately erected on the said site.

The maximum area permitted to be occupied shall not extend beyond one-third (1-3) of the width of the roadway immediately in front of the building site.

Sec. 12. Roadways with Railroad Tracks—

On streets containing railway tracks the space to be occupied by building materials outside of curb shall be based on the width of the roadway in front of the building under construction or repair. Where the roadway between the curb and the nearest rail of the track is twenty (20) feet or more, the building materials shall be compactly stacked or arranged at all times, to occupy not more than one-half (1-2) the distance from the curb to nearest rail therefrom, and to leave at least ten (10) feet clear between materials and nearest rail, and teams, wagons, carts, barrows, hods, vehicles, buckets, or other appliances delivering or removing, or about to deliver or remove materials to or from the building under construction or repair, or to or from the allotted space for building materials shall not obstruct any part of the space so reserved.

On streets containing railway tracks, where the road is less than twenty (20) feet wide between the outer edge of curb to rail of track nearest thereto, the building materials may, when compactly arranged to the satisfaction of the Inspector of Buildings, extend out from the curb to a distance not less than eight (8) feet of the outer rail of the track nearest the materials, and said space of eight (8) feet is to be kept clear of all obstructions at all times. In all cases the space allowed for building materials is restricted laterally to the width of the front or fronts of the building under construction or repair or the frontage of the premises upon which it is erected or to be erected.

Sec. 13. On Alleys—

Building materials or earth from excavation may be temporarily deposited in alleys sixteen (16) feet or more in width; not, however, to encroach on space more than one-third (1-3) the width of the alley and subject to immediate removal when so ordered by the Inspector of Buildings. On ends or turn-arounds in alleys, the earth and materials shall be deposited in a manner to permit the free use of the alleys for the passage of teams and carts, and to allow unobstructed egress from the property abutting on the alley.

Sec. 14. Occupation in Front of Abutting Property—

It is provided that if the written consent and a waiver of claims for damages against the City of Cleveland as provided in Part I. of this Code by the owners of properties abutting upon the site of any proposed building is first obtained and filed with the Inspector of Buildings, the permission to occupy the streets, sidewalks and alleys may be extended twenty (20) feet on each side beyond the limits of such building upon the same terms and conditions as those herein fixed for the occupation of streets, sidewalks and alleys in front of the building sites themselves.

Sec. 15. Arrangement of Material—

No material, fence or shed shall be placed within two (2) feet of any tree or four (4) feet of any lamp-post, fire hydrant, electrical conduit manhole, fire alarm box or catch basin; and all gutters must be kept free and clear at all times. When material is piled or worked upon any paved roadway it shall be placed upon plank platforms with two (2) inch sleepers, as prescribed in Section 17.

Sec. 16. Temporary Sheds—

Temporary sheds for office purposes, or storage of tools, or for the working of materials when such working is not prohibited as in Section 10, during building operations, may be erected upon public property within the limits prescribed for materials; but all such buildings shall be moved within such time as prescribed in the permit.

Sec. 17. Mortar Beds—

Lime, cement, or other mortar and concrete may be prepared upon any public lawn or roadway within the space designated to be occupied by building materials. If prepared upon the lawn, roadway or sidewalk, it shall be upon a light bed of tongued and grooved boards placed upon two (2) inch bearers or sleepers, leaving an air space below and properly protected so as to prevent any splashing or dripping on the lawn, roadway or sidewalk. The distance that mortar beds and building materials may extend from the curb into the street shall be noted on permit.

Sec. 18. Derricks—Limitation—

For all buildings more than two (2) stories in height, the use of elevators or derricks set upon sidewalks is prohibited. On no condition shall derrick posts be allowed to set in the roadway of any street or alley, and in no case shall the guy lines be less than fifteen (15) feet above the roadbed.

Sec. 19. Danger Lights—

Red glass globed lanterns shall be displayed and maintained during the whole of every night wherever fences are built or excavations are made along or building materials are piled in any street, alley or courtway, as follows: One (1) red light to be securely and conspicuously posted on or near such excavation, building material or obstruction; provided such obstruction does not extend more than ten (10) feet in length, and if over ten (10) feet and less than fifty (50), two (2) red lights, one (1) at each end, shall be so placed, and one (1) additional light for each additional fifty (50) feet or part thereof.

TITLE III.

PERMANENT OCCUPANCY.

Sec. 1. Use of Sidewalk Prohibited—

No permit or license to use any part of the sidewalk of any street, alley, courtway or other public property within the City of Cleveland for the purpose of placing or constructing therein any steps and landings, open areas, open gratings over areas, fixed stands, sales ledges, permanent show cases, grade signs or any other fixed obstruction, shall hereafter be granted.

If material alteration in or addition to any existing construction in or upon public property is to be made, any such existing sidewalk steps and open areas, or other sidewalk construction shall be made to conform to the provisions of this Code, but all existing permanent show-cases and open gratings over areas shall be removed and the sidewalk be made to conform to the provisions of this Code within sixty (60) days after its passage.

Sec. 2. Bases of Mouldings—

The face of the base course of any building may project beyond the street line six (6) inches when the width of the sidewalk is over ten (10) feet, and if less than ten (10) but over four (4) feet such projection shall not exceed three (3) inches, nor shall such base course exceed three (3) feet in height. The architrave moulds and pilasters emphasizing entrances may project five (5) inches and two (2) inches, respectively, according to the sidewalk width as above prescribed, but the face of all other pilasters, quoins and pitch lines of rock face work shall not extend beyond the street line.

Sec. 3. Sills and Nosings—

The projection of sills of bulkheads and show windows, and nosings of entrance steps or thresholds shall be kept within the limits prescribed for bases in Section 2, but nothing in this section shall prohibit sills from projecting two (2) inches with drips in any story of a building, irrespective of the width of the adjoining street, alley or courtway.

Sec. 4. Show Windows—

After the passage of this Code no part except the sills, of fixed or permanent store fronts, show cases or show windows, or storm doors on the first story of any building intended for a protection or to contain goods or wares for display or sale shall be constructed so as to project beyond the street line of any street, alley or other public property, and metal guard rails for the protection of glazed fronts near the grade shall not project more than nine (9) inches over all.

Any bay or projecting oriel window in any story, constructed for the display or advertisement of goods or wares of any kind shall be deemed a show window. No such window above the first floor shall be occupied by plumbing fixtures or running water.

In case of alterations of store fronts or show windows necessitated by repairs or for the purpose of re-arrangement, or in case of removal or restoration necessitated by fire or other damage, such alterations, renewals, or restorations shall be made to comply in all respects with the provisions of this section relating to the construction of new store fronts or show windows.

Sec. 5. Limit of Heights Above Grade—

Unless otherwise prescribed there shall be at least eight (8) feet on sidewalks and fourteen (14) feet on any public street, alley or driveway in the clear between the highest point of any grade and the lowest point of any appendage or projection extending from any building over public property, and no such projection less than fourteen (14) feet shall come within two (2) feet of the curb lines, except that the bottom of bays, balconies and shop front cornices shall not be less than twelve (12) feet above the sidewalk grade.

Sec. 6. Limit of Projections—

No part of any bay, oriel, balcony or cornice with their other limits as prescribed under their respective titles in Part II of this Code, shall project more than the following per cents of the width of the street or alleyways beyond the street line: Bays or oriels, three (3) per cent, but not more than three (3) feet; balconies five (5) per cent, but not more than three (3) feet; fire escape balconies not exceeding four (4) feet in any thoroughfare over sixteen (16) feet wide; main cornices five (5) per cent, but not exceeding five (5) feet and the returns of such cornices at the corner on any narrower street or public alley shall not exceed three (3) times its projection in length, and subordinate cornices, belts or string courses two and one-half (2 1-2) per cent but not more than two (2) feet; provided, that the projection of all oriel bays or enclosed balconies over the street line shall be kept within a line drawn from the party line at an angle of twenty (20) degrees with the street line.

Sec. 7. Areas—

When an excavation is made on any lot adjoining a street line and it is intended to use part of such excavation on either the side, front or rear of such lot as an area, or space for light and air, the person or persons causing such excavation to be made shall build or cause to be built a retaining wall enclosing such space or area, and if such area is to be left open it shall be provided with a substantial metal hand rail not less than forty-two (42) inches high. See Title XXV, Part II of this Code.

Sec. 8. Sidewalk Vaults—

The space which may be occupied under a sidewalk by a property owner on the front or side of his building shall be limited to the space between the street line and a line four and one-half (4 1-2) feet from and parallel to the exterior line of the curb, measurement to be taken from the curb line to the outside face of the retaining wall, except that spurs for sidewalk elevators, coal holes and chutes shall extend to within two (2) feet of such curb line as prescribed in Sections 14 to 17 inclusive. In no case shall an area be built under an alley or under an entrance to an alley from the street.

Sec. 9. Conduits and Piping Reservations—

No vaults shall be constructed as to interfere with any sewer or water pipe, fire hydrant, manhole, gas pipe, or other public work or improvement, nor with any electrical conduit carrying fire alarm or police wires, and the City of Cleveland in granting its permit to build a vault upon public property reserves the right to at any time construct under, over or through such vault space, water or gas pipes, conduits for electric heat or power, or other pipes or underground work needed for the public service that the Board of Public Service may deem necessary to be placed in, below or through the space occupied by the vault, without compensation.

Sec. 10. Sidewalk Vault Retaining Walls—

Retaining walls if built of brick shall be not less than two (2) brick thick at the top and shall average not less than two and one-half (2 1-2) brick in thickness for the first eight (8) feet up to ten (10) feet in clear height above the cellar floor; if the wall is battered it shall be not less than three (3) brick thick at the bottom, and for every additional three (3) feet or part thereof over ten (10) feet in height one-half (1-2) brick shall be added to the thickness at the bottom.

Sec. 11. Laying up Sidewalk Vault Retaining Walls—

All retaining walls shall be laid up in first class cement mortar and shall be well grouted in against the earth bank, and pointed on the outside at least four (4) feet down from the top of the wall.

Sec. 12. Covering Over of Sidewalk Vaults—

The roofs of all vaults shall be of iron, flagging, concrete, terra cotta or hard brick, and the crown of the arch or top of the covering shall be at least six (6) inches below the established surface of the sidewalk. The sidewalk paving shall be either of stone or concrete jointed parallel to and four and one-half (4 1-2) feet from the curb line, and laid in sections not exceeding six (6) feet in length along said curb and under the rules and regulations of the Board of Public Service. Loads on all parts of sidewalk roofs and coverings shall be proportioned according to Title V., Part II. of this Code.

Sec. 13. Sidewalk Vault Floor Lights—

Hereafter no open areas shall be left in any sidewalk and no sidewalk vault shall be covered over with open gratings except as noted under Section 15. When areas are covered with glass floor lights as prescribed in Title XXIV, Part II. of this Code, such floor lights shall be confined to one-third (1-3) of the width of the sidewalk next to the building line but shall not exceed five (5) feet in width.

Sec. 14. Openings in Sidewalks—

Hereafter all openings made in sidewalks for coal holes, elevators or skids shall be located with the outer edge within two (2) feet of the outer curb line, provided that if the space between the curb line and the retaining wall is occupied as provided in Section 9, such opening shall be made just inside of the retaining wall.

Sec. 15. Coal Hole Covers and Gratings in Sidewalks—

There shall not be more than one (1) coal hole for every twenty (20) feet or part thereof of frontage. The aperture in the sidewalk over any coal hole or vault shall not exceed eighteen (18) inches in diameter, and shall be covered with a substantial cast iron plate and frame with a scored top surface flush with the sidewalk, provided that such covers, for the purpose of ventilation, may be perforated with openings not exceeding one (1) inch in width. Cast iron open gratings not exceeding sixty (60) square inches of frame area and twenty-four (24) square inches in open perforations shall be permissible if placed next to the curb line and used for fresh air inlets for house drains. See Part VI of this Code.

Sec. 16. Sidewalk Lifts—

The location of any elevator, skid or lift is prohibited in sidewalks fronting any building accessible by teams from the side or rear, nor shall there be more than one (1) such lift in any sidewalk for every twenty (20) feet of building frontage or over-up to eighty (80) feet.

Sec. 17. Dimensions of Sidewalk Lifts—

The aperture for any sidewalk lift shall not exceed four (4) feet in width or six (6) feet in length nor be less than two (2) feet in width and three (3) feet in length running parallel with the curb. No aperture of a sidewalk elevator shall exceed one-third (1-3) the width of the walk, and lifts in walks less than six (6) feet wide shall be prohibited. The space under the sidewalk may be increased to provide for the hoisting apparatus, but in no case shall it extend more than four (4) feet beyond one side of the platform line.

Sec. 18. Doors in Sidewalks—

The doors used for covering the apertures in a sidewalk shall be constructed of heavy sheet iron with a roughened top in a cast iron scored frame with substantial hinges and angle iron reinforcement on the under side of the doors.

Sec. 19. Setting of Sidewalk Doors—

Such doors shall be as near flush with the sidewalk as possible, but in no case shall the projection above the surface of the sidewalk be greater than one-half (1-2) an inch, and all coverings of openings shall be kept closed when not in use, and be securely fastened with iron rods and chains. Also see Part V. of this Code.

Sec. 20. Sidewalk Vaults—Special Permits—

When sidewalk vaults, under a special permit, are constructed after a building is erected, they shall be so constructed as to obstruct as little as possible the use of said sidewalks during their construction.

Any building owner who neglects or refuses to roof over and pave a vault within a reasonable time or within the time fixed by the permit shall, upon conviction, be liable to the penalties prescribed in Part I of this Code.

Whenever the grade is changed the vault shall be changed and repaved at the expense of the owner of abutting property, to comply with the new grades.

Sec. 21. Coal Chutes in the Urban District—

In the "Urban" district or on residence streets coal chutes with circular rough iron covers may be located on the lawns within the space allowed by the schedule for sidewalk areas, but not in the flagging space.

Sec. 22. Drainage of Vaults—

Vaults and areas shall be properly drained and floors of vaults and areas shall be paved as required for cellars in Title VII, Part II of this Code.

Sec. 23. Plans Showing Location of Openings in Sidewalks—

Plans shall be submitted, with an application on an official blank, showing the location and dimensions of the vault, and all openings; also the depth and proposed construction, and the vault shall be built in accordance with the approved plans.

Sec. 24. Agreement to Abandon Vault Space—

The application for a vault shall be accompanied by a written agreement, upon an official blank, signed by the owner of the abutting property, contracting to release and relinquish the vault space, or permit its use as set forth in Section 9, and to remove without cost to the City of Cleveland, all machinery, fixtures or structural parts of the vault when so ordered by the Board of Public Service.

Sec. 25. Boilers, Gas Engines, Etc., Not Allowed in Vaults—

Boilers, gasoline, gas and steam engines, pumps and plumbing fixtures, urinals or water-closets, gasoline, petroleum or gas storage tanks, or any pipe or fixture generating or emitting gas, steam or offensive odors shall not be located in any sidewalk vault outside the building line. No fans or pipes ejecting vitiated or superheated air from the adjoining buildings or exhaust pipes causing disagreeable noises shall be located in or open into such vault. The application for a vault must state fully the purposes of the vault and the uses of all machinery or fixtures intended to be placed therein, and no fixture which is not mentioned in the application or which is prohibited by this Section shall at any time be placed therein.

Sec. 26. Signs and Billboards on Public Property—

No sign, signboard or billboard shall be placed upon any public property, nor shall any such sign or billboard, inclusive of placards and show cards, be fixed or placed upon any building so as to project beyond the street line, without a permit as prescribed in Part I. of this Code. For head room under projecting signs, see Section 5 of this Title.

N. B.—The area, construction and momenclature of signs and billboards is given in Title XXVI, Part II. of this Code.

Sec. 27. Dimensions of Sidewalk Signs, Etc.—

Fixed signs and signboards placed upon the ground attached to and parallel with the wall shall not exceed the length of one (1) sheet board; for business houses such board shall not exceed a three (3) sheet board in height nor a four (4) sheet board in height for assembly halls and theatres; the permissible number of such boards, unles otherwise stated in the permit, shall not exceed one (1) on each side of any entrance, provided that no such board be so placed as to obstruct any passageway or exit, or in front of any window.

Nothing under this section shall be construed so as to prohibit the owner, agent or tenant of the adjoining premises to use a temporary enclosing fence as prescribed in Sec. 1, Title II, to paint thereon or attach thereto any notice of sale, removal, change of occupancy, or time of opening, pertinent to the premises so enclosed, provided that there are not more than two (2) such notices each not exceeding the area of a three (3) sheet board, used one at each return end of such fence, exclusive of not more than four (4) "post no bills" notices, each not exceeding the area of a half sheet board.

Sec. 28. Overhanging Signs—

Signs which are parallel with the face of a building shall not project more than three (3) feet over the street line and must be supported on substantial metal brackets, attached and anchored direct to the body of the building. Signs attached to bays shall not extend from bay to bay or beyond the limit of the outer polygonal face of such bays but may follow the contour thereof.

Sec. 29. Electric Illuminated Signs—

All projecting signs, except those noted in Title XXVI, Part II of this Code, extending more than three (3) feet beyond the street line shall be exclusively electric, and all such projecting signs shall be arranged so that they can be drawn close against the wall of the building.

No glass sign, electrically or otherwise illuminated, shall exceed the dimensions prescribed in Title XXVI, Part II, of this Code.

Electric signs attached direct to a street front shall also conform with the provisions of this Section.

Sec. 30. Lighting of Signs—

The lettering and devices on electric signs shall be of metal, porcelain, enamelled iron or any other vitreous material. All such signs shall be provided with incandescent electric lamps of not less than two (2) c. p., placed not more than three (3) inches apart in the letters of the signs, and not less than six (6) inches apart in or on the border. All lamps shall be placed on the outside of the frame so as to reflect the light directly upon the sidewalk or street without any shadows underneath such sign. Lights in all electric and illuminated signs, located on public property, shall be left burning until midnight.

Sec. 31. Approval and Inspection—

All applications for permits to erect signs or signboards prescribed under this Title shall be accompanied by drawings to a scale showing design, construction, fastenings and wiring for the approval of the Inspector and the City Electrician before the permit shall be granted. All projecting signs shall be subject to inspection and must be kept in good repair, and the metal work painted at least once a year or more often if so ordered by the Inspector.

Sec. 32. Banner Signs on Streets—

Temporary banner signs or other decorative devices may be suspended over streets by permit, as set forth in Part I of this Code, provided that they are securely attached to buildings, the lowest part of which shall not be less than twenty-five (25) feet above the surface of the roadway and not less than eight (8) feet above any electric street line wires, but no temporary banner sign shall be attached to a building above the second-story floor line if used for any other purpose than to advertise the sale or renting of the property, or removal, clearing sales, or change of occupancy of the building upon which such signs are located.

Sec. 33. Existing Signs—

Any existing sign now erected, on the outer wall of any building or attached to a projection thereto, and in conflict with the provisions of this Code ,shall be removed when rotten or unsafe, or when ordered to be removed by the Inspector of Buildings.

Sec. 34. Poles and Posts on Public Property—

All barber or sign poles, posts, or signs hereafter placed or erected in any part of the streets of the city, shall be placed within one (1) foot from the outer line of the sidewalk of such street, and only on special permits; see Part I of this Code. Applications for permits shall be in writing to the Board of Public Service, bearing the signature of the owner or occupant of the property in front of which said signs or post is to be placed or erected, together with a description of the sign, post or pole and location; provided, that no such post, pole or sign shall be erected or placed within ten (10) feet of any crosswalk, nor for any other purpose but to advertise the business carried on in said premises. Nothing herein contained shall prevent the erection of hitching posts, not exceeding two (2) for every thirty (30) feet of a lot, and every such hitching post shall not be more than eight (8) inches in diameter, and not more than four (4) feet in height, and shall be placed on a line not less than four (4) inches nor more than six (6) inches from the inside of the curbstone. No posts, pole or sign heretofore erected or placed on or upon any sidewalk or street or other public places within the City limits, shall be permitted to remain, except as provided in this Section. Nothing in this section shall be construed so as to prohibit the use of hitching posts as air vents or intakes for conduits in streets, or plumbing lines in buildings.

Sec. 35. Fixed Awnings—

A Marquee or fixed awning projecting over the street line may be erected over entrances of any business front, or along the whole of a store or shop front for the purpose of better lighting the interior. All fixed awnings shall be made on metal frames and covered with sheet metal roofs, or if covered with glass it shall be either one-quarter (1-4) inch wire glass or prism glass not exceeding sixteen (16) square inches in area.

Sec. 36. Frames and Supports of Awnings—

The frames and supports for all awnings shall be securely attached to the walls of the building, and unless otherwise provided in this Title no awning shall project more than eight (8) feet over the street line with its lowermost point of either the frame or canvas not less than eight (8) feet above the sidewalk, and shall be also subject to the restrictions under Sec. 5 in this Title.

Canvas awnings of the folding and hinged class may be erected on any building. In no case shall awnings interfere with street lamps, trees, or trolley or other poles, and all awnings within fourteen (14) feet of the sidewalk grade, when not in use, or between the hours of sunset and sunrise, shall be drawn up against the building.

Sec. 37. Canvas Awnings and Fixed Frames—

Canvas awnings on fixed frames, iron supports and posts, not exceeding one (1) story in height, set near the curbstone as prescribed in Sec. 34, shall be permissible in front of any building not over two (2) stories in height when used as a commission house or private market house handling perishable goods, subject to the approval of the Chief of the Fire Department. Such posts shall be of sufficient strength to resist buckling under the force of backing of loaded delivery wagons and the frame shall be built in two (2) parts with an eight (8) foot span left in the centre of every fifty (50) feet or less frontage, and when such awning is not needed to protect merchandise, it shall be pulled up against the building. The lowermost horizontal in the metal frame shall not be less than twelve (12) feet above the curb line. All persons having fixed awning frames of any kind shall provide them with proper canvas covers or remove the frames.

Sec. 38. Porticos on Sidewalks—

Fireproof porticos not over one (1) story high built entirely of iron or steel frame work, or covered as prescribed in Sec. 35, or having a fireproof roof or floor of a single span, supported on substantial posts placed one (1) foot from the curb may be built over the sidewalk in front of the main entrance of any assembly hall, theatre, hotel, or railroad station, or a department store of over sixty (60) feet frontage, provided that such portico when measured on the cornice line does not exceed one-third (1-3) of the frontage or extend more than four (4) feet beyond each side of the entrance doors.

Sec. 39. Porticos on Market Houses—

Fixed porticos one (1) story high, if built entirely of incombustible material, may cover the whole of the sidewalk surrounding any established public market. All porticos and awning frames covering over sidewalks shall be in a single span with posts built near the curb line in conformity with Sec. 34 and all structural provisions of Part II.

Sec. 40. Temporary Covered Ways—

Temporary covered ways across sidewalks or public lawns may be permitted for periods not to exceed forty-eight (48) hours. Such covered ways shall afford a free passage of at least six (6) feet in width along the middle of the sidewalk. Permits for such covered ways shall not be required, but shall be under the control and regulation of the Police Department.

Sec. 41. Stands on Public Property—

No stands of any kind except temporary stands for review or observation purposes shall be placed upon any public property, and no such stands shall be so placed when a charge is made for its occupancy by any person or persons other than a General Committee having charge of public demonstrations. All such stands may be erected by and with the consent of the Board of Public Service (under the direct and sole charge of the Building Department), but such occupancy shall be limited to not more than two-thirds (2-3) of the width of a sidewalk measured from the curb line.

PART IV

FIRE PROTECTION

TITLE I.

GENERAL PROVISIONS.

Sec. 1. Permits and Supervision—

The granting of permits for and the construction of fire escapes, fire doors and stand-pipes shall be under the supervision of the Inspector of Buildings, with the concurrence of the Chief of the Fire Department as to their location and prospective uses, as hereinafter prescribed.

Sec. 2. Notice to Owners—

The Inspector of Buildings shall serve upon the owner or agent in charge of any building which does not conform to the requirements of this Code regarding fire escapes, fire doors, stand-pipes or other appliances required to be placed in or upon buildings, a written order or notice requiring that such building be made to conform to the provisions hereof, within thirty (30) days after the service thereof.

Any owner or agent failing to comply with such notice shall be guilty of a misdemeanor and for every period of thirty (30) days such failure shall continue, shall be guilty of a separate offense and be subject to the penalty imposed by this Code for each offense.

TITLE II.

FIRE ESCAPES.

Sec. 1. Buildings Exempt—

Buildings which have the necessary number of fireproof stairways as provided by Section 21, Title XXI of Part II of this Code and all fireproof hotels, schools, hospitals, detention buildings and office buildings and tenement, apartment and club buildings having more than one (1) interior stirway, one (1) of which, if there are two (2) stairways, or two-thirds (2-3) of which if there are three (3) or more stairways lead in a direct line to an entrance on the ground floor, and which are accessible from all inter-communicating hallways and provided with self-closing fireproof doors to cut off smoke, and all other fireproof buildings with two (2) or more stairways, the occupancy of which contains nothing of a hazardous risk or inflammable nature under the rules of the Fire Department and dwellings not over three (3) stories high, shall be exempt from the placing of fire escapes under the provisions of this Title.

Sec. 2. Buildings Requiring Fire Escapes—

In addition to the buildings prescribed in Titles XXXIV, XXXVI and XXXVII, Part II of this Code, every building now occupied or built to be occupied by one (1) or more families above the second floor, and every building already erected, more than two (2) stories in height, to be occupied and used as a hotel or lodging house, and having more than five (5) sleeping rooms above the second story, and every factory, mill, manufactory, workshop or other building three (3) stories or more in height, or where provision is made to employ ten (10) or more persons above the second floor of such building; and any public or private hospital, asylum or school house, place of instruction or assembly more than two (2) stories high, which are not fireproof buildings, and every office building or any other building of any class occupied as above prescribed, having but one (1) stairway and being three (3) stories or more in height, shall be provided with one (1) or more metal fire escapes, extending from the first story to the upper stories of such buildings, and above the roof, and of such material and construction as hereafter prescribed in this Title.

Sec. 3. Number of Escapes—

(**a**) NUMBER OF OCCUPANTS.—All buildings prescribed in Sec. 2 shall be provided with standard fire escapes (see Sec. 5) easily accessible by all the occupants of the building without passing through living or sleeping room or rooms which have doors fastened by locks or bolts, as remote from the stairways as possible. When the number of people accommodated in or occupying any such building does not exceed fifty (50) above the second floor it shall be provided with at least one (1) standard fire escape; if the number exceeds fifty (50) but does not exceed one hundred (100) the stairs of such fire escape shall be increased to twenty-four (24) inches and the balconies to forty-eight (48) inches in the clear; and when the number exceeds one hundred (100) but not more than five hundred (500) there shall be at least two (2) such enlarged fire escapes; when there are over five hundred (500) the number of escapes shall be one (1) additional for every five hundred (500) or part thereof, or the two (2) as specified above may have their proportions increased as provided for Assembly Halls and Theatres. See Title XXXVII, Part II, of this Code.

(**b**) FLOOR AREAS.—Every building requiring fire escapes or outside emergency stairs as prescribed in this Code, and for which no special provision is made as to the number of ecapes required, or, in which there is doubt as to the number of occupants to be provided for, shall have the required number of fire escapes or emergency stairs, in addition to main stairs or other means of egress, determined according to floor areas served, as set forth in the following schedule; except that in case of fireproof office buildings not more than one (1) escape shall be required if not in conflict with any other provisions of this Code. Standard fire escapes placed on buildings under the provisions of this sub-section shall have stairs not les than twenty-four (24) inches wide.

BUILDING		Maximum number of sq ft. per floor for one escape	Provide one more escape for each additional
Class	Height in Stories		
I-II-III	3 and 4	25,000	15,000 sq. ft.
	5 and 6	20,000	12,500 sq. ft.
	7 and 8	15,000	10,000 sq. ft.
	9 and 10	12,500	7,500 sq. ft.
	11 and 12	10,000	5,000 sq. ft.
	13 and 14	7,500	5,000 sq. ft.
	15 and 16	5,000	5,000 sq. ft.
IV-V	3	20,000	10,000 sq. ft.
	4	15,000	7,500 sq. ft.
	5	12,500	5,000 sq. ft.
	6	10,000	5,000 sq. ft.
	7	7,500	5,000 sq. ft.
	8	5,000	5,000 sq. ft.
VI	3	12,500	5,000 sq. ft.
	4	7,500	5,000 sq. ft.
VII	3	5,000	5,000 sq. ft.

Nothing in this Section shall be so construed as to admit the use of a smaller number of fire escapes in buildings subdivided as prescribed in Title XXX, Part II of this Code, provided, that when one (1) fire escape of proper proportions serves two (2) adjoining buildings or two (2) separate divisions of the same building, the division, fire or party walls in or between such buildings shall be "dead" from foundation to coping.

Sec. 4. Proportioning of Fire Escapes—

Fire escapes shall be proportioned to carry the "live" loads with the factors of safety prescribed in Title V of Part II of this Code, and with balconies and rails as provided in Sec. 17, Title XI, Part II of this Code, bolted to the wall or otherwise securely attached to the interior frame, provided, however, that in proportioning the treads of stairs and rungs of ladders, a live load of not less than two hundred (200) pounds per foot of length is assumed, and where a stand-pipe is used in connection with a fire escape, the weight of the water column is allowed for with the "dead" load with a "live" load of two hundred (200) pounds per square foot on each balcony.

Sec. 5. Standard Fire Escape—

Unless otherwise provided in Secs. 10 and 11, all fire escapes herein required shall be standard fire escapes.

The standard fire escape shall be that approved as the standard by the Ohio State Department of Workshops and Factories, which provides open metal return fire escapes with balconies forty-five (45) inches wide at each floor above the ground, balconies to take in two (2) or more windows; the stairs connecting the balconies shall not be less than twenty-one (21) inches in the clear between handrails; handrails shall be three (3) feet high measured plumb on balconies and in center of treads; treads and risers shall be eight (8) by eight (8) inches; the lowermost balcony may be two (2) feet long by two and one-half (2 1-2) feet wide placed eight (8) or ten (10) feet above the sidewalk grade with a straight wall run, leading to the first landing next above. In lieu of the above, exterior fire escapes if placed upon buildings of the second grade occupied by warehouses, mills, workshops and factories, may have the stair risers not exceeding ten (10) inches high with treads not less than six (6) inches wide; from the topmost balcony to the roof an extension ladder shall be run not less than twenty-one (21) inches distant from the wall and extending above the roof twenty-one (21) inches in goose-neck form down to the roof and bolted thereto.

Where the first balcony is ten (10) feet or more above the ground, there shall be attached thereto a counter-balanced stairway extending to the ground. Said stairway shall be of the same construction, pitch and width, and be provided with two (2) hand-rails, as the portion of the fire escape next above.

Sec. 6. Straight Run Escapes—

Straight run fire escapes with balconies under different windows at the different stories may be placed on buildings the interiors of which are so divided that they are properly accessible, provided that each balcony is not less than thirty (30) inches wide and extends at least six (6) inches in length beyond each window jamb. The stairway shall be run on solid walls and shall be at least twenty-one (21) inches in the clear with handrails on both sides; the outer edge of the nearest hand-rail shall be at least four (4) inches distant from the wall and be run from balcony to balcony without crossing a window or any other opening.

Sec. 7. Distance of Stairs from Windows—

The balcony floors of all fire escapes shall not be lower than ten (10) inches below the top level of the sills of openings and no fire escape stairs shall cross a window or other wall opening at a less distance than twenty-one (21) inches from same, and on fire escapes requiring intermediate stairs and landings and such portions of the stairs nearest the wall shall be placed on blank surface of walls and piers.

Nothing in this section shall be so construed as to prohibit the use of return fire escapes or emergency stairs in front of windows, with balconies as prescribed herein, when placed at right angles to the face of the wall, provided that no portion of such escapes shall be within four (4) feet of any other window and that the stairs are not less than two (2) feet wide.

Sec. 8. Fire Escapes in Courts—

No court less than eight (8) feet in width above the first floor shall contain a fire escape.

Every court in which there shall be a fire escape shall have direct and unobstructed access along the surface of the ground to a street, alley or yard opening into the alley or street,, without entering into or passing through or over a building unless by a four (4) foot wide fireproof passage on the court or ground level. See Sec. 23, Title XXIX, Part II of this Code.

Sec. 9. Fire Escapes on Streets—

All fire escapes overhanging streets, alleys, areas or passageways shall be subject to the limitations of head room precribed in Title III, Part III of this Code. No fire escape wider than four (4) feet shall overhang any public property. All buildings of Divs. b ,c, d and e of the First Frade hereafter erected, shall have their fire escapes or emergency stairs extend to the ground, and along street lines the buildings shall be set back for that purpose, but in no case shall ladder escapes or drop ladders on fire escapes be used for such buildings.

Sec. 10. Ladder Escapes—

Ladder escapes may be employed on the street fronts of existing non-fireproof buildings of any grade if, upon examination, the Inspector of Buildings and the Chief of the Fire Department find that structural features of such fronts prevent the erection of a standard escape.

Ladder escapes may also be employed on the street fronts of all fireproof buildings occupied as public or private offices, hotels, warehouses or club houses.

When ladder escapes are used they shall extend from the grade to the roof as prescribed for stair escapes; the balconies shall take in not less than two (2) windows and shall be never less than thirty (30) inches wide and six (6) feet long if the ladder is parallel with the wall and forty-five (45) inches wide if the ladder stands perpendicular. If the ladder is perpendicular, the scuttle holes (twenty-one (21) by twenty-one (21) inches in clear), shall be staggered in each alternate story, provided, that when ladder escapes are used they shall be at least eighteen (18) inches in clear width between the uprights with rungs not less than three-quarters (3-4) inch square spaced not over fourteen (14) inches on centers. All ladders and scuttles of such fire escapes shall be opposite solid piers or portions of walls and the edge of scuttle holes shall be at least six (6) inches distant from the nearest window jamb; no ladder purporting to be placed as a fire escape shall be without balconies provided with hand-rails three (3) feet high.

All stand-pipes placed on the outside of buildings shall be provided with ladder escapes. See Title IV.

Sec. 11. Other Designs—

Nothing embodied under this Title shall prohibit any person whose duty it is under this Code to erect fire escapes on buildings not over four (4) stories high, from selecting and erecting a different stair pattern or any other and different device, design or instrument, which, upon tests made under the rules and regulation of the Fire Department, in the presence of the officials prescribed (See Sec. 1, Title I) prove equally as efficient, permanent and safe external means of escape from fire and smoke as the devices prescribed in this Title.

Sec. 12. Stationary Ladders—

All buildings requiring fire escapes shall have stationary iron ladders leading to the scuttle opening in the roof thereof, and all scuttles and ladders shall be kept so as to be ready for use at all times.

If a bulkhead is used in place of a scuttle, it shall have stairs with sufficient guard or hand-rail leading to the roof. In case the building should be a tenement house, the door in the bulkhead or any scuttle shall at no time be locked, but may be fastened on the inside by movable bolts or hooks.

Sec. 13. Painting and Repair of Fire Escapes—

Every new fire escape shall be painted with two (2) coats of durable paint, one put on in the shop and the other at once upon the erection of such fire escape, and all fire escapes shall be kept painted and in good repair.

Sec. 14. Lighting and Gongs.

The location of fire escapes in all buildings shall be conspicuously placarded during the day time, and all hotels, factories, workshops, schools, detention buildings, assembly halls and theatres, and all other buildings requiring fire escapes, which are occupied at night, shall have all public halls, stairways and passageways properly lighted, and at the head and foot of each flight of stairs, and at the intersection of public and private halls with main corridors, and at the point of egress to each fire escape, shall be kept during the night a red light; and one or more proper alarms or gongs, capable of being heard throughout the building, shall always remain easy of access and ready for use in each of said buildings, to give notice to the inmates in case of fire; and there shall be kept posted in a conspicuous place in every sleeping room a notice descriptive of such means of escape.

Sec. 15. Incumbrances on Escapes—

All fire escapes shall be kept free from incumbrances or obstructions at all times and it shall be unlawful to place incumbrances or obstructions or permit or cause such incumbrances or obstructions to be placed before or upon any fire escape at any time.

TITLE III.

FIRE DOORS AND APPLIANCES.

Sec. 1. Buildings Requiring Shutters—

Every non-fireproof building which is more than two (2) stories in height above the curb level, occupied for warehouse, workshop or factory purposes, shall have standard fire-doors, blinds or shutters, hung to iron hinge eyes or pin blocks built into the wall on every window and every opening above the first story thereof, excepting on the front openings of buildings fronting on streets, or open yards or courts which are more than thirty (30) feet in width. The door and window openings of any building of the I, II, III, IV, V or VI class, as classified in Title II, Part II of this Code, the whole or part of which is occupied by division (e) of the First Grade, or any division except (a) and (b) of the Second Grade, shall when the distance between the doors and windows on opposite sides of alleys or courts is thirty (30) feet or less, be provided with shutters as above prescribed.

Sec. 2. Standard Blinds, Doors and Shutters—

The said doors, blinds or shutters to be standard; shall be constructed of pine or other soft wood of two (2) thicknesses of matched boards, with each other, and securely covered with tin or galvanized iron, one thickness placed vertically and the other diagonally upward from the hanging stile, on both sides and edges, with folded lapped joints, the nails for fastening same being driven inside the lap; the hinges or bolts or latches shall be bolted to the door or shutter after the same has been covered with tin or galvanized iron, and such doors or shutters shall be hung upon an iron frame, independent of the woodwork of the windows and doors, or two (2) iron hinges securely fastened in the masonry; or such frames if of wood, shall be covered with tin or galvanized iron in the same manner as the doors and shutters.

Sec. 3. Sliding Shutters—

Sliding shutters constructed as per Section 2 may be used instead of hinged shutters, of such mechanism as may be approved by the Inspector of Buildings. They shall in any case comply with all requirements provided for standard hinged fire-shutters.

Sec. 4. Rolling Shutters—

All rolling iron or steel shutters hereafter placed in the first story of any building, shall be counterbalanced so that said rolling shutters may be readily opened by the firemen.

No building hereafter erected, other than a dwelling house or fireproof building, shall have inside iron or steel shutters to windows above the first story.

Sec. 5. Metal Frames and Wired Glass—

In lieu of standard fire-doors and shutters, wherever mentioned in this Code, shutters with metal frames of adequate strength with wired glass panels in same or windows glazed with wired glass set in metal sash and frames shall be used.

Sec. 6. Other Suitable Protection—

All windows and openings above the first story of any building may be provided with other suitable protection if approved by the Inspector of Buildings and Chief of the Fire Department, and not in conflict with this Code.

Sec. 7. Shutters to be Opened from Outside—

All shutters opening on fire escapes, and at least one (1) row vertically in every three (3) rows on any front with protected window openings above the first story of any building, shall be so arranged that they can be readily opened from the outside by firemen. This section also applies to all iron grated windows.

Sec. 8. Inside Fire-Doors—

Where openings in interior brick walls are fitted with fire-doors to prevent the spread of fire between buildings, or parts of any buildings, the said fire-doors shall be made of wood covered with tin or galvanized iron, as described for standard fire-doors and shutters. See Sections 2 and 3 of this Title. And in addition to the openings prescribed in Title XXX, Part II, of this Code, all buildings specified in this Title, hereafter erected or altered, having openings on interior walls, shall be provided with fireproof doors where deemed necessary by the Chief of the Fire Department.

Sec. 9. Doors and Shutters to be Closed at Night—

Occupants of all buildings provided with fire-doors and shutters shall close the said fire-doors and shutters at the close of business of each day.

Sec. 10. Painting and Repairs—

All sheet metal covering of shutters shall be painted on the under side at least one (1) coat, and all exterior surfaces shall be painted and kept in good repair as prescribed for fire escapes in Sec. 13, Title II.

TITLE IV.

STAND PIPES AND PUMPS.

Sec. 1. Stand Pipes and Hose—

In addition to the buildings prescribed in Title XXXVII. Part II, of this Code, every building, hereafter erected, of greater height than seventy-five (75) feet, but not exceeding one hundred and fifty (150) feet, shall be provided with a four (4) inch stand-pipe running from the cellar to the roof. And all buildings of greater height than one hundred and fifty (150) feet, now or hereafter erected, shall be provided with stand-pipes not less than six (6) inches in diameter, running from the cellar to the roof, and with one, two and one-half (2½) inch outlet, with hose attached thereto, on each floor, including the basement, cellar and the roof, and placed as near the stairs as practicable, but no outlet shall be placed more than five (5) feet above the floor level.

All buildings of the Second grade over three (3) stories but less than seventy-five (75) feet high, and all buildings of the Third grade having two (2) or more families or suites of apartments above the third floor but less than seventy-five (75) feet high, shall be provided with a three (3) inch stand-pipe leading direct to the street water main. Said stand-pipe shall be provided with valves and outlets on each floor as herein prescribed, except that attached to the regulation outlets there may be reducers fitted with one and one-half (1½) inch hose in lieu of the two and one-half (2½) inch standard.

Nothing in this section shall be so construed as to prevent the use of one and one-half (1½) inch or two (2) inch hose connections or hose with proper reducers attached to the two and one-half (2½) inch regulation outlet, in any other building or part of a building, provided the use of such shall not be in conflict with any regulation of the Fire Department.

Sec. 2. Siamese—

Each interior or exterior stand-pipe shall be provided with one two-way two and one-half (2½) inch automatic Siamese at the bottom of each stand-pipe placed on street above the curb level. Said Siamese shall be within four (4) feet distance from the sidewalk, and be securely anchored to the wall of the building.

Sec. 3. Exterior Stand Pipe—

Exterior stand-pipes may be placed on the outside of buildings not exceeding one hundred (100) feet in height.

Each such stand-pipe shall have connected with it a ladder fire escape as prescribed in Sec. 10, Title II. The pipe shall not be less than that of three (3) inches standard wrought iron pipe with a two and one-half (2½) inch hose valve attached to every outlet on each floor and goose-necked over and above the roof. Said stand-pipe shall be secured to the ladders at every four (4) feet and bolted to each balcony.

Sec. 4. Number of Stand Pipes—

If any of the said buildings extend from street to street, or form an "L" shape, they shall be provided with stand-pipes for each frontage.

Sec. 5. Standards—

All valves, fittings and couplings used in connection with stand-pipes shall be of the standard size and thread in use by the Fire Department of the City of Cleveland.

Sec. 6. Auxiliary Pumps—

All buildings now erected, unless already provided with a three (3) inch or larger vertical pipe, or hereafter to be erected, one hundred and fifty (150) feet or more in height, shall be provided with an auxiliary fire apparatus and appliances, consisting of water tank on roof, or in cellar, pumps, stand-pipes, hose, nozzles, wrenches, fire extinguishers, hooks, axes and other fire appliances, located and accessibly placed under the direction of the Chief of the Fire Department.

Sec. 7. Inspection—

All valves, hose, tools and other appliances, provided for in this section, shall be kept in perfect working order, and once a month the person in charge of said building shall make a thorough investigation of the same to see that all valves, hose, and other appliances are in perfect working order and ready for immediate use by the Fire Department.

Sec. 8. Pumps and Elevators in Readiness—

In every building over one hundred and fifty (150) feet high a steam or electric pump and at least one (1) passenger elevator shall be kept in readiness for immediate use by the Fire Department, during all hours of the day and night, including holidays and Sundays. The said pumps, if located in the lowest story, shall be placed not less than two (2) feet above the floor level.

Sec. 9. Boiler Pit—

The boilers which supply power to the passenger elevators and pumps, if located in the lowest story, shall be so surrounded by a dwarf brick wall laid in cement mortar, or other suitable permanent waterproof construction, as to exclude water to the depth of two (2) feet above the floor level from flowing into the ash pits of said boilers.

Sec. 10. Cess Pool—

When the level of the floor of the lowest story is above the level of the sewer in the street, a large cess-pool shall be placed in said floor and connected by a four (4) inch cast iron drain pipe with the street sewer.

Sec. 11. Sewer Connection—

In all buildings already or hereafter to be built in the City of Cleveland, used or intended to be used for mercantile or manufacturing purposes, and located where a sewer connection can be made, there shall be in the cellar or basement, a sewer connection which can be opened immediately for the purpose of drainage in case the building or any of the floors or basement or cellar thereof should be flooded from any cause, and the location of said sewer connection shall be as near the main stairs as possible and shall be indicated by a permanent and conspicuous sign near the ceiling, on the wall near the same, and such sign shall never be hidden or obstructed, but shall always be in plain view.

Sec. 12. Sprinkler System—

In buildings sixty (60) feet or more in height used or occupied for store, warehouse, workshop or factory purposes there shall be provided in connection with said stand-pipe or pipes, two and one-half (2 1-2) inch perforated iron pipes placed on and along the ceiling line of each floor, inclusive of all those below the first floor and extending to the full depth of the building. Such perforated pipe shall be provided with a valve placed at or near the stand-pipe, so that the water can be let into same when deemed necessary by the firemen, or in lieu of such perforated pipes, a separate and distinct system of automatic sprinklers, with fusible plugs, independently supplied from pressure tank, shall be installed under the supervision of the Chief of the Fire Department. See also Titles XXX and XXXVII, Part II of this Code.

Buildings of Divs. c, d, e and f of the Second Grade in which automatic sprinklers are installed shall have their floors built water-tight and scuppered to a depth of at least one and one-half (1 1-2) inches provided with proper weep holes in the side walls or floor drains connected with drip pipes leading to the cellar floor drains.

Sec. 13. Number of Lines—

When the building is twenty-five (25) feet or less in width, two (2) lines of perforated pipes shall be provided, and one (1) line additionally for each twelve and one-half (12 1-2) feet, or part thereof that the building is wider than twenty-five (25) feet.

Sec. 14. Placard—

A suitable iron plate with raised letters shall be fastened to the wall near said stand pipe to read: This stand pipe connects to perforated pipes in the cellar.

Sec. 15. Tests and Repairs—

All stand pipes, tanks, fire lines, hose and other appliances provided for in this Title shall be maintained in good repair and working order at all times and shall be subject to inspection and test at least twice a year by the Fire Department to ascertain their condition.

TITLE V.

FIRE LIMITS.

Sec. 1. The Present Limits—

Ordinances No. 44280 and No. 44748. (See Addenda.)

PART V

ELEVATORS

TITLE I.

EXPLANATORY.

Sec. 1. Subjects Included—

The subjects under Part V of the Building Code shall include all elevators, hoists, lifts, derricks, dumb-waiters, or any mechanical devices which employ ropes, cables, pulleys, platforms of swinging ladders or scaffolding, whether permanently or temporarily fixed in position, for the purpose of conveying people, animals, vehicles, merchandise, building materials or any other load to any point on or in a structure, above or below the grade line.

Sec. 2. Lifting Tackle of Derrick, Hoist or Swinging Scaffold—

For the purposes of this Code, all lifting tackle of any derrick, hoist, or swinging scaffold shall be subject to the rules and regulations governing freight elevators, and all the other supporting parts of such derricks, hoists and swinging scaffold shall be proportioned to meet the conditions of stability of frame structures prescribed in Title V of Part II of this Code.

TITLE II.

PERMITS, INSPECTIONS AND FEES.

Sec. 1. Permits for Erection of Elevators—

It shall be unlawful for any person or persons, company or corporation to construct, erect or place, or cause to be constructed, erected, or placed, in any building or structure, erected or in course of erection, any elevator to be used for carrying passengers or freight from one floor to another without first having obtained from the Inspector of Buildings a permit therefor. Before the said Inspector of Buildings shall issue such permit for the erection, construction, or use of such elevators. there shall be filed in his office as a matter of record, plans and specifications showing the type and make of machine, the motive power to be used, and the size of all ropes, sheaves, drums and supporting beams; also speed, travel and capacity of car, type of safeties, dimensions of pressure tank, and pressure carried thereon, or the number of volts and amperes of electric current or motor usd.

The Inspector of Buildings shall not issue a permit for the erection, construction or use of any elevator, as defined in Title

I that may have less than two (2) ropes of approved diameter carrying the weight of the car and its load, or each counterbalance weight thereof.

Sec. 2. Existing Elevators to be Equipped—

Any person or persons, company or corporation having charge of any building in which any elevator is or may be in use shall equip such elevator with the devices or appliances required in Title III of this part of the Code, and keep the same in good working order and repair; and it shall be unlawful for any person or persons, company or corporation to erect, use or operate, or cause or permit to be erected, used, or operated, in any building within the City of Cleveland any freight or passenger elevator unless the same be equipped with the devices and appliances as provided in the aforesaid Title.

Sec. 3. Inspection and Notice of Repairs—

When an elevator is placed in a building, the owner or his agent shall immediately so notify the Inspector of Buildings in writing, and such elevator shall not be used until it shall have been duly inspected. A like notice of any repairs or alterations intended to be made shall be given by the person employed to make such repairs or alterations

Nothing in this section shall prevent an owner from making the ordinary repairs for maintenance, or prevent him from making repairs at once when needed, pending the serving of the above notice when a certificate of inspection is needed.

Sec. 4. Examination and Certificate—

Every owner shall require the person in charge of the running of his elevator to carefully examine the same and its appliances once in twenty-four (24) hours, and upon the discovery of any defects or impairments tending to endanger life, the elevator shall be shut down at once and the Inspector of Buildings notified. The use of such defective elevator shall be prohibited until the necessary repairs to make it safe have been made, inspected by the Inspector of Buildings, and a certificate in writing is issued by him that said elevator has been put in safe working order and is fit for use.

The said certificate shall be placed under glass and framed and hung in a conspicuous place in the car of the elevator for which the certificate was issued.

Sec. 5. Metal Plate Showing Carrying Capacity—

The owner, lessee, manager, or other person having charge or control of any elevator in the City of Cleveland shall cause to be fastened in a conspicuous place in said elevators, or on said derricks, lifts or swinging ladders or scaffolding, metal plates having suitable raised letters on same, which shall prescribe the number of pounds weight which said elevators, after proper test, have capacity to carry.

All elevators before being put into use shall be tested with load equivalent to twenty-five (25) per cent more than the lifting capacity stamped on the plate. This test shall show no weakness when the elevator is worked either upward or downward as in ordinary use.

Sec. 6. Prohibiting Use if Unsafe—

Should any defect be found in any part, or parts, of any elevator which would tend to impair its safety or endanger life by the continued use of such elevator, the Inspector of Buildings shall immediately inform the person in charge, of the danger of continuing the use thereof; and the Inspector of Buildings shall immediately cause a notice in writing to be served upon the owner or owners, lessee, manager, or any other person or persons having use, control or management of said elevator, which notice may contain a statement of the necessary repairs; and said elevators shall not again be used until a certificate in writing shall be issued by the Inspector of Buildings that it has been put in safe running order and is fit for use. The notice herein provided for may be served upon any person having charge of the running of said elevator.

Sec. 7. Inspector—Fees—

The owners, agents, lessees or managers of all buildings in which elevators are used, or which employ derricks, swinging ladders or scaffolds, or other mechanical lifting devices, shall pay the Inspector of Buildings before a certificate of inspection is issued, a fee of two ($2.00) dollars for each inspection of each elevator made in pursuance of this Code. See also Part I.

TITLE III.

CONSTRUCTION OF ELEVATORS.

Sec. 1. Passage Under Adjoining Elevators—

There shall be no kind of a passage in any story of a building below a platform of an elevator and wherever such passageway is in existence it shall be forthwith, after the passage of this ordinance, abolished. Public halls or passageways in front of elevators hereafter to be erected shall be at least one (1) foot wider than the widths established in Part II of this Code.

Sec. 2. Ropes, Cables and Platforms—

Ropes and cables whose diameter shall be approved for use in any elevator, shall have a factor of safety of at least five (5) for all diameters over five-eights (⅝) of an inch; six (6) for under five-eighths (⅝) but more than one-half (½) an inch; and eight (8) for all diameters below one-half (½) an inch. All elevator platforms shall have a factor of at least four (4). If elevators are exposed to the action of the elements the factor shall be increased twenty-five (25) per cent of the above; and where any rope or cable shows twenty-five (25) per cent of deterioration it shall be considered unsafe.

Sec. 3. Number of Cables—

All freight elevators shall have not less than two (2) hoisting cables, with suitable adjusters or equalizers to equalize the bearings. No passenger elevator shall have less than four (4) hoisting cables; provided that those passenger elevators, the cables of which wind around a drum, may have two (2) hoisting cables, if the car is counterweighted separate from the drum, the counterweight to have two (2) cables, and cables to be provided with suitable equalizers to equalize the bearings. All ropes and cables shall be independently fastened at their terminals.

Sec. 4. Elevator Sheaves—

All elevator sheaves or drums for rope transmission shall not be less in diameter than twelve (12) times the circumference of the cable used on such elevator.

Sec. 5. Elevator Governor—

All freight and passenger elevators (except hand power) shall be provided with an automatic down-speed governor or regulator, except worm-gear elevators the speed of which is less than sixty (60) feet per minute.

Sec. 6. Shut Off—

Every power elevator shall be provided with an automatic shut-off which shall stop it at its foot and its highest landing. Such elevators shall also have slack cable devices.

Sec. 7. Cable Stops—

All freight and passenger elevators, except hand power, in any building, the cables of which wind around a drum, must be provided and equipped with an automatic trip or slack cable stop and automatic brake of sufficient strength to hold the car at any point.

Sec. 8. Safety Floor Stops—

All freight elevators shall be provided with a safety device, by which persons using the elevator at one floor can lock the operating cable to prevent the moving of the elevator by persons on another floor, during loading or unloading.

Sec. 9. Automatic Trap Doors—

All freight elevators whose speed is less than fifty (50) feet per minute, not enclosed in shafts as provided in Sec. 14, shall have automatic trap doors, tin lined on the under side, at each floor, so constructed as to form a substantial floor surface when closed, and so arranged as to open and close by the action of the elevator ascending and descending.

Sec. 10. Supports and Guides—

In all buildings hereafter to be erected over three (3) stories high, the beams for supporting overhead work shall be of iron or steel and such beams shall be supported on brick walls or continuous iron columns resting on concrete or masonry foundation, and all guide-posts or run rails for elevator car and counterweights shall be of iron or steel in all buildings over five (5) stories high, when operating in open or grill enclosed hatchways, and in all buildings over nine (9) stories high, in all hatchways.

The counter weight guides shall be provided with limit stops so constructed as to prevent the running of the weights above the guide strips into the elevator shaft under any circumstances, either by accident to or loss of control of the elevator. All weights shall be securely bolted together with rods passing through all the weights.

Sec. 11. Automatic Oiler for Guides—

All passenger elevators shall be provided with suitable oiling device for lubricating the guides automatically, to obviate the necessity of a person riding on top of cage for that purpose.

Sec. 12. Screens Under Sheaves and Beams—

Every power elevator shall be provided with a proper screen under its sheaves and beams to prevent tools or other things from dropping on the hoistway.

Sec. 13. Elevator Pits—

All freight or passenger elevators shall have a pit extending at least thirty-six (36) inches below the lowermost floor level; and elevators not extending down to the basement shall have fireproof pits at the lowermost floor level above which they serve. Such pits shall have no openings except holes for cables.

Sec. 14. Brick Enclosures—

Whenever an elevator shaft extends down into a basement, that portion thereof, inclusive of the space occupied by the machinery, shall be constructed of brick, and be fitted with automatic fire-doors as provided in Sec. 15.

All freight elevators in any building shall be enclosed with brick walls or with fireproof partitions which do not depend on wooden floor beams for support. And where they are not placed on an outside wall with window openings therein and serve more than one (1) floor their enclosures shall be carried six (6) feet or more above the roof of the building, and be covered with a skylight of double thick glass and is protected by a screen made of No. 1 or heavier wire with one and one-half (1 1-2) inch or closer meshes. All elevator skylights shall have an opening device controllable from each and every floor. See also Titles XXII and XXIV, Part II of this Code.

Sec. 15. Elevator Fire Doors and Safety Gates—

All elevators enclosed with brick walls or in fireproof shafts shall be provided with fireproof frames and doors. Said doors shall be provided with an approved device or system which will automatically close the opening in the event of fire. And in addition to said automatic fire-doors, the elevators shall be provided with automatic opening and closing hatch gates, to protect the approach to the elevator when doors are open.

Sec. 16. Freight Elevator Well Hole Railings—

All freight elevator shafts and hoistways in any building not enclosed as provided in Sec. 14 shall be protected and enclosed on each and all floors of any such building with suitable framework or railing not less than five (5) feet high, and all approaches and entrances to any such elevator shafts and hoistways shall be provided with automatic or self-closing gates; and no person shall use, permit, or cause to be used, any such freight elevator, shaft or hoistway, in any building unless the same is protected or enclosed as above required.

Sec. 17. Hoists and Elevators—Well Holes to be Guarded—

In all buildings in the City of Cleveland in course of construction and in all buildings having elevators intended for freight lifts only, and not constructed, protected and operated as required for passenger elevators, it shall be unlawful to use hoists and elevators for hoisting materials, etc., in any such building or buildings unless the well holes or openings for such elevators or hoists on each and every floor of the building shall be closed with guard rails composed of boards placed six (6) inches apart to a height of five (5) feet, with a gate or door swinging outward from the elevator and such other safety or equivalent appliances as shall be necessary for the protection of life or limb.

Sec. 18. Dumb Waiters—

Dumb waiters extending to basement and serving three (3) or more floors in a building, shall be deemed freight elevators and shall be enclosed accordingly, except that they need not extend to the roof provided that they are thoroughly fire-stopped at the bottom, and the uppermost story served. In non-fireproof buildings where dumb-waiters are enclosed in shafts the walls of such shafts shall be plastered on metal lath. Provisions of Secs. 1 and 4, Title II, shall not apply to this section.

Sec. 19. Passenger Elevator Shafts—

Elevators used exclusively for passenger service, in all wholesale stores, factories or warehouses, or passenger elevators with a freight attachment underneath located in any other building, shall be treated and provided as above prescribed for freight elevators with the distinction that the enclosing partitions may be of plastering on metal lath, or any other fireproofing having wooden doors with wired glass if any glass at all.

Sec. 20. No Elevator in Well Hole—

No elevator shall hereafter be constructed in the well hole of any stairway unles there be a fireproof wall between such elevator and said stairway, extending from the basement to a point three (3) feet above the level of the roof, elevator shafts in fireproof buildings alone excepted.

Ses. 21. Stairs Adjoining Elevators—

In either of the cases cited under Sections 19 and 20 the stairs accompanying such elevators shall be enclosed with partitions equal to those employed for enclosing the respective elevator, and there shall also be such partition between the elevator and the adjoining stairway.

Sec. 22. Elevators in Staircases—

Open grillwork enclosures for passenger elevators, not extending below the level of the first floor, may be erected in staircase enclosures in buildings where the entire space is occupied by the stairs, and the elevator is enclosed in brick or stone walls and the stairs are of fireproof construction as specified in Title XXI, Part II of this Code.

All elevators if used exclusively for private service in all dwellings or within a suite of office or business apartments, for not more than three (3) stories or two (2) stories and a basement in height, if entirely detached from the public halls, or stair halls or passageways leading thereto, need not have their shafts extended to the roof, provided that such shafts are properly enclosed in conformity with this Code.

Sec. 23. Passenger Elevator Enclosures—

All passenger elevator shafts, except as prescribed in Sec. 19, shall be enclosed from the floor to the ceiling on all entrance sides and to a height not less than seven (7) feet six (6) inches on other sides, and when iron wire or grill work is used, no greater spaces than two (2) inches square, or one and three-fourths (1 3-4) clear way if vertical rod work is used, shall be permitted; and no obstruction of any kind shall extend into any elevator shaft or be placed on the enclosure thereof in front of the entrance side.

Sec. 24. Doors—

All doors approaching elevator shafts shall have safety locks of approved make, so that said doors will be closed when the elevator car is not at the floor where said doors are located.

Sec. 25. Doorways to Cars—

It shall be unlawful to maintain or operate any passenger elevator in the City of Cleveland which has more than one (1) entrance or doorway to the car, unless each of said entrances or doorways is provided with a door on the inside of said car,, said door to be closed by the operator before said car is put in motion. All doors to cars shall be not less than seven (7) feet high.

Sec. 26. Cage of a Car—

The cage of all passenger elevator cars shall be constructed of metal or other incombustible material, except floor covering; but there shall be no glass or porcelain used in the structural or ornamental part of the canopy of any cage. The use of glass and porcelain in all elevator cars for general public use, shall be confined to covering of certificates of inspection, annunciators and the lighting lamps. In every passenger elevator there shall be placed a metal hand-rail one (1) inch in diameter and forty-two (42) inches above the floor, on all sides not having door openings. The canopy, if any, of every passenger elevator shall be so constructed that the whole or a semi-circular part sixteen (16) inches in depth by the width of the door in width above the entrance door can be easily removed from the top.

Sec. 27. Sidewalk Elevator Doors–

All doors covering sidewalk elevator holes when open shall open only sufficiently for proper service, and also form a guard to the aperture while open; and when the covering door is attached to the frame of the lift to open automaticaly, the sides of the lift at right angles to the curb shall be safeguarded with metal lattice work.

Sec. 28. Protection of Well-Holes, Elevator Shafts and Open Courts in Existing Buildings—

Owners of all buildings erected prior to the passage of this Code, containing elevators, hatches or well-holes, elevator shafts or open courts, shall, upon written notice from the Inspector of Buildings so to do, properly and sufficiently guard and protect such elevator hatches, well-holes or elevators, with gates or guards so as to avoid danger to human life, and said gates or guards shall be closed on all floors except when cars are in actual use.

Sec. 29. Elevators in Existing Hotels—

In every non-fireproof building, used or occupied as a hotel, after the passage of this Code, in which there is an elevator not enclosed in a fireproof shaft, such elevator shall be enclosed in partitions of incombustible material constructed and arranged as prescribed in Sec. 19 for passenger elevator shafts.

Sec. 2. Revocation of Permits—

When the work for which any building permit was issued is not being performed in conformity to the detailed statement, plans or specifications upon which such permit was issued, it shall be the duty of the Inspector of Buildings to notify the owner or owners, or his or their agent, in writing, that the work is being constructed in violation of the permit, and that such work must be suspended until a permit for such deviation from the detailed statement, plans or specifications be obtained, or that such work shall be made to conform to the detailed statement, plans and specifications upon which a permit therefor was issued. If the owner or owners, or his or their agent, fail to comply with the said notice on the service thereof, it shall be the further duty of the said Inspector to revoke said permit. Written notice of such revocation, signed by the Inspector, shall be immediately served upon the owner, agent, superintendent or contractor in charge of the work, and shall be posted on such premises, and it shall be unlawful for any persons to perform any work in or about said structure, building, or premises after the revocation of the permit and the posting of notice thereof.

Sec. 3. Penalty for Violation—

The owner or owners of any building, structure, wall, platform, staging, or flooring, or part thereof, where anything in violation of this Code shall be placed, or shall exist, and any architect, builder, plumber, carpenter, or mason who may be employed or assist in the commission of any such violation, and all persons who shall violate any of the provisions of this Code or fail to comply therewith, or any requirement thereof, or who shall build in violation of any detailed statement of specifications or plans submitted and approved thereunder, or any certificate or permit issued thereunder, shall for each and every such violation or non-compliance be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than five (5) dollars nor more than five hundred ($500) dollars, or imprisoned not more than six (6) months.

Sec. 4. That Sections 124, 235, 236, 240, 314, 315, 316, 352, 353, 354, 355, 364, 366, 367, 562, 563, 586, 740, 900, 901, 903, 941, 942, 943, 944, 945, 951, 963, 964, 965, 966, 967 and 968 of the Revised Ordinances of the City of Cleveland of 1896, and all other ordinances and parts of ordinances heretofore enacted in conflict with the provisions of this ordinance be and the same are hereby repealed.

Sec. 5. This ordinance shall take effect and be in force from and after its passage and legal publication.

Addenda.

Fire Limits—East Side.

Ordinance No. 46138.

AN ORDINANCE to amend Section 371 of the Revised Ordinances of 1896 of the City of Cleveland, as amended by Ordinance No. 44280, passed February 1, 1904.

Section 1. Be it ordained by the Council of the City of Cleveland, State of Ohio, That Section 371 of the Revised Ordinances of 1896 of the City of Cleveland, as amended by Ordinance No. 44280, passed February 1, 1904, be and the same is hereby so amended as to read as follows:

Sec. 371. The fire limits of the City of Cleveland are established as follows: On the east side of Cuyahoga River, beginning at the point of intersection of the shore line of Lake Erie and the center line of Ross street extended; thence south along the center line of Ross street to a point 100 feet north of the north line of St. Clair street; thence easterly parallel with the center line of St. Clair street to the center line of Willson avenue; thence southerly along the center line of Willson avenue to a point 100 feet south of the southerly line of St. Clair street; thence westerly parallel with the center line of St. Clair street to the center line of Perry street; thence southerly along the center line of Perry street to a point 300 feet north of the northerly line of Euclid avenue; thence easterly parallel with the center line of Euclid avenue to the center line of Willson avenue; thence southerly along the center line of Willson avenue to a point 100 feet south of the southerly line of Euclid avenue; thence westerly parallel with the center line of Euclid avenue to the center line of Perry street; thence southerly to a point 100 feet north of the northerly line of Prospect street; thence easterly parallel with the center line of Prospect street to the center line of Willson avenue; thence southerly along the center line of Willson avenue to a point 100 feet south of the southerly line of Prospect street; thence westerly parallel with the center line of

Prospect street to the center line of Perry street; thence southerly along the center line of Perry street to a point 100 feet north of the northerly line of Central avenue; thence easterly parallel with the center line of Central avenue to the center line of Willson avenue; thence southerly on the center line of Willson avenue to a point 100 feet south of the southerly line of Central avenue; thence westerly parallel with the center line of Central avenue to the center line of Perry street; thence southerly along the center line of Perry street to a point 100 feet north of the northerly line of Scovill avenue; thence easterly parallel with the center line of Scovill avenue to the center line of Willson avenue; thence southerly along the center line of Willson avenue to a point 100 feet south of the southerly line of Scovill avenue; thence westerly parallel with the center line of Scovill avenue to the center line of Perry street; thence southerly along the center line of Perry street to a point 100 feet north of the northerly line of Woodland avenue; thence easterly parallel with the center line of Woodland avenue to the center line of Willson avenue; thence southerly along the center line of Willson avenue to a point 100 feet south of the southerly line of Woodland avenue; thence westerly parallel with the center line of Woodland avenue to the center line of Humboldt street; thence southerly along the center line of Humboldt street to a point 100 feet south of the southerly line of Pittsburg street; thence westerly parallel with the center line of Pittsburg street to a point 100 feet east of the easterly line of Broadway; thence easterly parallel with the center line of Broadway to the center line of Dille street; thence southerly along the center line of Dille street to a point 100 feet south of the southerly line of Broadway; thence westerly parallel with the southerly line of Broadway to the Erie Railroad; thence westerly along the Erie Railroad to the center line of the Cuyahoga River; thence along the center line of the Cuyahoga River to Lake Erie; thence along the shore line of Lake Erie to the center line of Ross street extended, which is the point of beginning.

Sec 2. That said original Section 371 of the Revised Ordinances of 1896 of the City of Cleveland, as amended by Ordinance No. 44280, passed February 1, 1904, be and the same is hereby repealed.

Sec. 3. This ordinance shall take effect and be in force from and after its passage and legal publication.

Passed August 1, 1904.

C. W. LAPP, President of the Council.
PETER WITT, City Clerk.

Approved by the Mayor August 4, 1904.

Aug. 5-12.

Fire Limits—West Side.

Ordinance No. 44748.

AN ORDINANCE to amend Section 372 of the Revised Ordinances of 1896 of the City of Cleveland, as amended by Ordinance No. 33128, passed July 15, 1901, and as amended by Ordinance No. 34965-a, passed October 28, 1901.

Section 1. Be it ordained by the Council of the City of Cleveland, State of Ohio, That Section 372 of the Revised Ordinances of 1896 of the City of Cleveland, as amended by Ordinance No. 33128, passed July 15, 1901, and Ordinance No. 34965-a, passed October 28, 1901, be and the same is hereby so amended as to read as follows:

Section 372. The fire limits on the west side of the Cuyahoga river are hereby established as follows: Beginning at the center of the intersection of the Cuyahoga river and the New York, Chicago & St. Louis Railroad; thence westerly along the New York, Chicago & St. Louis Railroad to the intersection of the Erie Railroad; thence westerly along the center line of the Erie Railroad to the center line of Russia street; thence southerly along the center line of Russia street to a point 100 feet east of the easterly line of Pearl street; thence southerly parallel with the easterly line of Pearl street to the center line of Clark avenue; thence westerly to a point 100 feet west of the west line of Pearl street; thence northerly parallel with the westerly line of Pearl street to a point 100 feet south of the southerly line of Lorain street; thence westerly parallel with the southerly line of Lorain street to the center line of Waverly avenue; thence northerly along the center line of Waverly avenue to a point 100 feet north of the northerly line of Lorain street; thence easterly parallel with the northerly line of Lorain street to a point 100 feet west of the westerly line of Pearl street; thence northerly parallel with the westerly line of Pearl street to the center line of Church street; thence westerly along the center line of Church street to the center line of State street; thence northerly along the center line of State street to a point 100 feet south of the southerly line of Detroit street;

thence westerly parallel with the southerly line of Detroit street to the center line of Waverly avenue; thence northerly along the center line of Waverly avenue to a point 100 feet north of the north line of Detroit street; thence easterly parallel with the northerly line of Detroit street to the center line of State street; thence northerly along the center line of State street to the center line of Vermont street; thence easterly along the center line of Vermont street to the center line of Pearl street; thence northerly on the center line of Pearl street to the center line of Washington street; thence easterly along the center line of Washington street to the center line of Mulberry street; thence westerly along the center line of Mulberry street to the Old River Bed; thence northerly along the Old River Bed to the center line of the Cuyahoga river; thence in a southerly direction along the center line of the Cuyahoga river to the point of beginning.

Sec. 2. That Section 372 of the Revised Ordinances of 1896 of the City of Cleveland, as amended by Ordinance No. 33128, passed July 15, 1901, and as amended by Ordinance No. 34965-a, passed October 28, 1901, be and the same is hereby repealed.

Sec. 3. This ordinance shall take effect and be in force from and after its passage and legal publication.

Passed March 28, 1904.

C. W. LAPP, President of the Council.
PETER WITT, City Clerk.

Approved by the Mayor, March 31, 1904.

April 8.

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